

**A Toolkit for Teacher Recognition of
Underachieving Gifted Students: An Intervention
Study with Victorian Teachers.**

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D.Ed, B.Ed, M.Ed.**

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Abstract

It was estimated in 2012 there were up to 42,500 underachieving gifted students in Victoria (ETC 2012a). With over one million students in Victoria (DET 2022b), using Gagné's (2020a) estimate of 10% and the ETC's (2012a) report of up to 50%, there could be as many as 50,000 gifted students underachieving. As educators we need to improve outcomes for all students by having the skills, abilities, and confidence to provide an appropriate curriculum for all students. Identification of underachievement, giftedness and underachieving gifted students involves an understanding of what constitutes giftedness in children and students, including characteristics and indicators used for identification, and the knowledge about implementing an identification procedure. The Victorian Government (2012a) suggested an online toolkit as the strategy for identification of gifted students. By early 2018, a toolkit had not been developed, so the researcher collated and edited numerous resources during 2018 and early 2019, in order to produce a toolkit that contained over 30 checklists, rating scales and questionnaires. It was not until late 2019 that the Victorian Government developed an online 'High-ability' toolkit for teachers (DET 2020). Teachers were not able to access this strategy until 2020. Within this toolkit there is one resource for identification purposes (Neihart and Betts 2010). This resource is also located in the researcher's toolkit under the ACT Government resource.

This research involved Teacher Agency Theory (TAT) with an objective to help teachers achieve agency in giftedness. This theory seeks to identify the goals and outcomes that researchers and teachers pursue. These goals are intentional and effective in that they incorporate both purpose and action. This theory incorporated interpretivism as the epistemology for this research. The researcher sought to interpret the teacher's beliefs, understandings, and knowledge of the concept of giftedness in order to understand why so many gifted students, underachieve and to ascertain the viability of a toolkit for recognition of giftedness. Methodologically this research used qualitative research methods which involved: a survey that investigated the participants' understandings and views on giftedness and underachievement; semi-structured interviews which was used as a strategy of inquiry; and an intervention study that tested the efficacy of the developed toolkit.

This study involved teachers with varying degrees of knowledge on underachievement and giftedness. Using experts in the field of giftedness for the survey responses revealed that most of the participants had limited knowledge on giftedness with the remaining participants having only emergent knowledge on giftedness. Even though the survey responses revealed there were no participants who had expertise knowledge on giftedness, some participants believed they were experts.

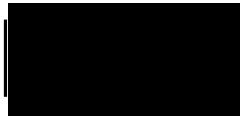
This intervention was employed to determine the toolkits' impact and effectiveness. The results of the survey have indicated an increase in the awareness of the characteristics and behaviours of giftedness. The implementation of the toolkit was deemed by the participants to have increased their knowledge on underachievement and giftedness, particularly with an underachieving gifted student. After implementing the toolkit, the participants believe they are now able to identify giftedness, especially underachieving gifted students.



Student declaration:

“I, Kerri Lyons, declare that the PhD thesis entitled ‘A toolkit for teacher recognition of underachieving gifted students: An intervention study with Victorian teachers’, is no more than 100,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references, and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.”

Signature:



Date: 5/01/2023

“I have conducted my research in alignment with the Australian Code for the Responsible Conduct of Research and Victoria University’s Higher Degree by Research Policy and Procedures.

Signature:



Date: 5/01/2023

Ethics Declaration:

“All research procedures reported in the thesis were approved by the Victorian University Human Research Ethics Committee (Approval Number: HRE18-212), and the Department of Education and Training Human Research Ethics Committee (Approval Number: 2018_003897).”

Signature:



Date: 5/01/2023



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I acknowledge Rosemary Viète's work in proofreading and copyediting my thesis in its final draft. She provided feedback in accordance with IPEd Standards D and E regarding grammatical accuracy, correct use of spelling and punctuation, conformity with referencing conventions, clarity of expression and appropriate and consistent use of terms. In doing so she preserved my meaning, argument, style, organisation, and voice. Although her former field is education with specialties in academic literacy and language testing, she did not furnish input that affected the substance and structure of my thesis

For those of you who were in my life during my developing thesis, you know who you are and I am truly grateful for the support and all that you have done.

I would also like to thank all the participants who were involved in this research, without whom there would have been no study.



Dedication

I dedicate this thesis to my son Jason, my daughter Samantha,
and to my mum and dad who I dearly miss.

‘Education is a complex process and we know, even now, only a small part of how it operates and of the reciprocal interaction between the process and the pupils, teachers, parents and the many others involved... the only safe way to produce knowledge is to conduct systematic research’ (Burns 1997, Preface)



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List of Abbreviations and Glossary of terms

Academic schools	Academic schools are state-maintained independent schools (DET 2018a). These schools usually have select-entry for admission to their programs.
ACARA	Australian Curriculum, Assessment and Reporting Authority (ACARA) has developed the Australian curriculum with input from all States and Territories. It has shaped, written, implemented and will monitor and evaluate the Australian Curriculum.
Acceleration	Students, younger than the age of their peers, move through educational programs faster than usual.
AAEGT	Australian Association for the Education of the Gifted and Talented. This association is a national organisation dedicated to furthering the education and wellbeing of gifted students
ACER	Australian Council for Educational Research. ACER initiates, develops, and manages research-based projects. It creates and promotes research-based knowledge, products, and services to improve learning outcomes.
Australian Curriculum	The Australian Curriculum has been designed to help all Australians to become successful learners. The curriculum is a developmental sequence of learning from Foundation to Year 10.
APACS	Australian Psychologists and Counsellors in Schools (APACS) is a professional association in Australia for school psychologists, guidance officers, and counsellors.
Bell Curve	A bell curve is a graph which depicts a normal distribution of variables including population, in which most values cluster around a mean, while outliers can be found above and below the mean.
CCEA	Council for Curriculum, Examinations and Assessment is an independent body of the Department of Education in Northern Ireland.
CFRC	Children and Families Research Centre is a research-based centre in the Australian Centre for Educational Studies and is linked to the Institute of Early Childhood at Macquarie University.
DCSF	Department for Children's Services and Families was a government department in the United Kingdom until it was replaced by the Department of Education in 2010.
DEECD	Department of Education, Early Childhood Development: DEECD offers learning and development support, services, and resources for all Victorians.
DET	Department of Education and Training (DET) is the Commonwealth department responsible for national policies and programs within childcare, early childhood education, school education, post-school, higher education, international education, and academic research.
DMGT	Gagné's Differentiating Model of Giftedness and Talent (DMGT) has been used in policy documents for most Australian states and territories. It is designed to show the developmental process, designed to nurture and to develop gifts into talents.

ETC	Education and Training Committee of the Victorian Parliament
Expert teachers	Expert teachers know their subject and their students, and 'use a variety of methods to help students understand and connect complex ideas' (Findell 2009, p. 23).
EYLF	Early Years Learning Framework: describes the principles, practices and outcomes that support and enhance young children's learning from birth to five years of age, as well as their transition to school.
FISO 2.0	Framework for Improving Student Outcomes (FISO2.0) (2022). FISO 2.0, is used to guide the development of a whole school approach to high-ability by incorporating four phases: Evaluate and diagnose; Prioritise and set goals; Develop and plan; and implement and monitor . Each phase consists of questions which need to be addressed. FISO 2.0 also includes Outcomes, Core elements and Dimensions. Outcomes include: Learning (ongoing acquisition of knowledge, skills and capabilities); and Wellbeing (development of capabilities necessary to thrive); Core Elements include: Leadership, Teaching and learning (responsive practices and curriculum for students' learning), Assessment (evidence and data to assess student learning), Engagement (actions that support learning, participation and belonging), and Support and resources (processes, products, services and partnerships); and Dimensions include: Leadership (positive and supportive relationships, shared goals and values); Teaching and learning (based on the Victorian Curriculum); Assessment (based on student's learning growth); Engagement (strengthen student participation); and Support and resources (responsive approach to support student learning and effective use of resources).
Foundation year	Foundation year refers to the beginning of primary school, it is also referred to as 'prep' in Victoria, Australia.
Giftedness	Giftedness refers to children who have high potential. Giftedness can be found in many domains. This research refers to the intellectual and academic domains. Giftedness occurs between 10-15% of the population (Gagné 2008). The Victorian ETC claim that there is an average of at least 'one gifted child per classroom' (ETC 2012a, p. 6).
Group 1 participants	Teachers with no experience in gifted education. Most of the participants ended up belonging to this group.
Group 2 participants	Teachers with emergent knowledge of giftedness. This group included one teacher from previous research (Lyons 2014). Only a few participants were in this group.
Group 3 participants	Expert teachers on gifted education. Although there were participants who were originally considered experts, against experts in the field of giftedness, they ended up not having the necessary expert knowledge.
Growth mindset	Intellectual ability can be increased through hard work, effort, and persistence (Carlson 2018). Students can increase their skills and achieve their efforts with a growth mindset. In other words, having positive work ethics.
HITS	High Impact Teaching Strategies (HITS) is a resource guide for teachers. HITS comprise 10 instructional practices that will increase student learning. Using HITS increases the chances that students will learn a concept or skill, compared to other strategies.

ILP	Individual Learning Program (ILP) is a collaboratively written document which outlines a student's current level of ability and identifies specific goals for future attainment. ILPs build on a student's current level of learning.
IQ	Intelligence Quotient (IQ) is a measure of a person's intelligence as indicated by standardised tests and the use of a formula: IQ equals 100 times mental age divided by chronological age.
Kindergarten/Preschool	In Victoria, Early Childhood Education (ECE) is usually the first educational setting children attend. Many children aged from birth to three years attend other forms of ECE. While kindergarten is not compulsory in Victoria, most children attend at 4 years of age, the year before they start school. The Victorian Government is currently rolling out 3-year-old kindergarten across the state and as of 2023, kindergarten in Victoria will be free.
Longitudinal development	Longitudinal development (LD) in education is the study of student growth over a period of time. This can involve an individual or similar aged students (e.g., investigating all grade 4's in a school; investigating all grade 6's across multiple schools). There are two purposes in LD, that is, to determine 'the functional form of growth...and to examine the relation between the trajectory and variables of interest' (Nese, Lai & Anderson 2013, p. 19).
NAGC	The National Association for Gifted Children (NAGC) is an American organisation which focuses on the needs of gifted and talented children. They are dedicated to empowering teachers and others who support children with advanced abilities. They provide professional learning, impactful research, and equitable opportunities and support to develop children's gifts and talents (NAGC 2023).
NCCA	National Council for Curriculum and Assessment The NCCA directs developments in curriculum and assessment, and then supports implementation of these changes.
NPSI	National Plan for School Improvement. NPSI has two goals to achieve by 2025 1. For the Australian school system to rank in the top five countries for student achievement in mathematics, science and reading. 2. For the Australian school system to be considered a high quality and high equity system.
NSGT	The National Society for the Gifted and Talented is an American organisation created to honour and nurture gifted and talented children.
Objective measures	Standardised tests, IQ tests and other psychometric testing. Objective measures are usually associated with quantitative studies.
Off-level testing	This involves using assessments that are developed for older students.
Pedagogy	The method and practice of education and how this influences the growth of learners.
PISA	Programme for International Student Assessment. PISA is a worldwide study to evaluate educational systems.

Prep (First year at school)	The national curriculum (or Australian curriculum) states the term used for the first year at school is 'foundation'. Although Australia is working towards solidarity for the term used for children's first year at school, at present different states and territories have their own Department of Education descriptions for the term: Victoria – prep; New South Wales – kindergarten; Queensland – prep; Western Australia – pre-primary; South Australia – reception; Tasmania – prep; Australian Capital Territory – kindergarten; and Northern Territory – transition.
Primary school	To attend primary school in Victoria, children must be 5 years old by the 30 th of April in the year they start school. Primary education is the first stage of compulsory education in Victoria. There are seven years of primary school.
Psychometric	Psychometrics is a field of study concerned with the measurement of knowledge, abilities, attitudes, and personality traits including IQ tests.
Secondary school	In Victoria, secondary school starts in the eighth year of schooling, called year 7. There are P-9, P-12, K-12, 7-9 and 10-12 schools. 7-9 and 10-12 schools are usually two campuses from the same school but located at different premises.
Selective Consumers	Some gifted underachievers can be referred to as selective-consumers or selective-underperformers. These students excel in subjects that interest them or in classes where they like and respect their teachers, otherwise they exert little effort.
Self-perception	Self-perception refers to the way in which someone understands their own beliefs, attitudes, strengths, and abilities.
SENG	Supporting Emotional Needs of the Gifted (SENG). This initiative aims at decreasing medical misdiagnoses in gifted children by promoting healthy growth and development in gifted children. SENNG also helps clinicians to improve their clinical skills.
SPS	School psychology services provide assessment to objectively measure children's cognitive abilities, revealing underlying strengths and weaknesses and providing a direction for targeted individual learning programs and strategies for school and home.
SPSS Statistics	SPSS is a software program by IBM which provides research outcomes. It enables researchers to draw conclusions and make predictions, and can be used for small or large studies.
STAR strategy	Situation, Task, Action and Result (STAR) is a strategy for teachers to help set learning goals (Situation e.g., Teaching complex division skills); guidance for students (Task e.g., Guidance for students who did not understand the skill); implementing methods to achieve a goal or solve problems (Action e.g., Describe what action and methods were used to achieve this, i.e., while class was engaged with a task, teacher was able to spend time with the students who were struggling by introducing an easier version of the original task); and explanation of the outcome (Result e.g., Did those struggling students learn complex division skills?)
Subjective measures	Parent, teacher, peer and self-nomination forms and past student records are all types of subjective measures. For this research, these measures are influenced by teachers' beliefs, their perceptions, and feelings about their students. The participants ideas about the toolkit and its resources, results in a subjective measurement. Subjective measures are usually associated with qualitative studies.

Toolkit	The toolkit is a collection of resources from published literature (e.g., Montgomery 1996, 2000 & 2009; Silverman 1987, 1993 & 2010), including adaptations of these. The toolkit includes checklists, rating scales, questionnaires, parent, peer, and self-nomination forms; which involves characteristics, behaviours and indicators of underachievement and giftedness.
Under-achievement	Underachievement is the term used when the estimated potential of individuals is not realised in their achievements (Montgomery 2000 & 2009).
Under-achievement and gifted	Underachieving gifted students commonly refers to students who have a significant discrepancy between their exceptional ability and actual achievement (Reis 2005). According to the Victorian government 'up to 50% of gifted students underachieve' (ETC 2012a, p. 1).
UNESCO	United Nations Educational, Scientific and Cultural Organisation (UNESCO). UNESCO's programs contribute to the achievement of the sustainable development goals through international cooperation in education and the sciences. UNESCO works to ensure that every child and citizen has access to quality education.
VIT	The Victorian Institute of Teaching (VIT) is an independent authority for the teaching profession. Its purpose is to regulate for a highly qualified, proficient, and reputable teaching profession. VIT's four main functions are to: Register teachers and schools and assist compliance; Accredite teaching programs; ensure all teachers maintain standards; and Investigate breaches of conduct (The VIT - Victorian Institute of Teaching).

Author's Preface

'Research is a systematic investigation to find answers to a problem' (Burns 1997, p. 1). I have been involved in primary education for many years and I felt that I would be able to contribute further to the advancement of education through research.

The problem I wanted to research was around the enigma of underachievement in gifted students. I have both a personal and professional interest in gifted education. My son was identified as gifted when he was in Grade 3, and ended up being an underachieving gifted student for his entire education. Having had experience as a practising teacher and being a parent of a gifted child, I developed an interest in gifted education. As the parent, I have observed, contributed to, and shared in the life of my son and his experiences of being a gifted student in schools in the Western suburbs of Melbourne. I have made judgements and interpretations of these experiences and have tried to make sense of what it was like for him being labelled gifted.

Van Manen (1990) suggests that 'The problem of a phenomenological inquiry is not always that we know too little about the phenomenon we wish to investigate, but that we know too much' (p. 46). But as Tapper (2012) states 'as a researcher you should start with what is interesting to you' (p. 10). By choosing this area of study, I would be inevitably bringing my own history, which would include any pre-conceptions that have evolved from this history. Personal experience and insider information can lead to a potential bias threatening the quality and viability of qualitative data. However, this study was about the teachers who investigated the toolkit, and their responses which would count towards the data. I understand as a teacher that gifted students are a diverse group of individuals who have varying schooling experiences.

I completed my Master's degree at Victoria University on the field of study of underachievement and giftedness. The findings of my thesis titled, *An investigation into teachers' knowledge on underachievement and giftedness* (Lyons, 2014), indicated

that the teachers I interviewed were unaware of characteristics and indicators of giftedness and thus were unable to recognise gifted students. The results of that study, alongside my professional and personal experiences, including review of the literature - confirmed the need for further research. When deciding on a focus for my upcoming study, I further researched the literature and decided to investigate the phenomena of underachievement amongst gifted students including the need for identification.

I discovered there were important questions which needed to be explored around the 'educational enigma of underachieving gifted students' (Hoover-Schultz 2005, p. 46). Why is the underachievement of gifted students still a major concern? What has the Victorian Government done to address this issue? What support do teachers need for the recognition of underachieving gifted students? As Burns puts it 'Research starts with a problem' (1997, p. 15). The goal of this thesis is to interpretively explore teachers' perceptions about the recognition of underachieving gifted students, and hence determine the efficaciousness of the toolkit for this current study.

For clarity and consistency, I use the term 'gifted' throughout this thesis and did not refer to 'gifted and talented' unless the term had been used by other researchers. But in saying that, it is important to keep in mind that over time and with the right support, these students will develop their gifts and become talented learners. But without identification and the proper support, these students may not end up reaching their potential.

Although this research was in its pre-submission phase for a PhD, the results were presented at the World Council for Gifted and Talented Children Conference 2021. Many of the participants in the conference were interested in knowing more about the toolkit. Presenting at the conference created avenues for opportunities to obtain insight and feedback from a community of scholars on giftedness. I believe it has increased my professional stature in this field and personalised my research by providing a face and voice to it.

The researcher's knowledge on giftedness could be considered a limitation of this study because it could have influenced participant's choices and their responses. Nevertheless, I believe the procedures and methods put in place have diminished this issue.

Chapter One: Introduction, Significance and Expectations

'Every gift contains a danger. Whatever gift we have we are compelled to express. And if the expression of that gift is blocked, distorted, or merely allowed to languish, then the gift turns against us, and we suffer'

(Johnson 1993, p. 15).

1.1: Introduction

As with all research, the researcher begins with a burning desire to answer a question to a problem. The problem inherent in the question central to this research is: 'Why are so many gifted students underachieving?' This issue remains very problematic, with many gifted students not being recognised and not having their needs met. Gifted students are being overlooked, undereducated and unstimulated for many different reasons (Post 2014). Post (2014) believed this happened because teachers have competing demands and inadequate training, gifted students are a low priority over other students, and there are attitudes, stereotypes and resentment towards students who are gifted. These views include teachers being time poor with having to 'meet administrative and state standards... and ensuring struggling students do not fall behind' (Post 2014, Gifted challenges, para. 3); 'there is little to no training in gifted education' (para. 4); 'there is an extensive, socially accepted culture of neglect towards gifted students' (para., 5); 'teachers failed to recommend ability grouping because of concerns and reactions from the community and other children... and whether it could be seen as elitist' (para. 6); 'teachers possess their own subjective attitudes and opinions [personal experiences] about gifted students' (para. 7). Post (2014) also points out that 'teachers can be overwhelmed just trying to keep students in line, manage behavioural problems, and address struggling students who lag behind their peers' (Post 2014, Gifted challenges, para. 9; Monash University 2020). The 'neglect' of gifted students has caused many problems including engagement and lack of access to an education that will meet their needs.

According to the Education and Training Committee of the Victorian Government (ETC) (2012a) 'there is no single test or approach that can identify giftedness' (p. 89). The Committee's view was that teachers need information which incorporates a variety of

tools that can cater for certain types of giftedness and the age of students. They believed this information should be contained in a toolkit and be developed with a 'range of approaches to identifying giftedness, as well as a checklist to help early childhood educators to identify gifted traits and behaviours' (ETC 2012a, p. 94).

This research came about for various reasons: the number of gifted students who were underachieving; a lack of response by the Victorian Government on producing an online toolkit for teachers; and the result of a previous study (Lyons 2014). Although the, *Inquiry into the education of gifted and talented students* (ETC 2012a), recognised a toolkit as the strategy for identification of gifted students including recommendations 10, 11 and 12 from the ETC (2012b), six years later the development of this toolkit by the Victorian Government was still in limbo. This provided an opportunity for the researcher to develop and evaluate a toolkit as part of a doctorate with Victoria University, so that teachers may be able to recognise gifted students, especially those gifted students who were underachieving. Research has found that toolkits can be very useful for teachers' professional learning, keeping teacher's knowledge, skills, and competence up to date, and for student improvement (Clark-Wilson & Hoyles 2019; DET 2017a; Doherty 2011), so the ETC (2012b) recommended this toolkit be developed for early childhood educators, teachers, and parents (recommendations 10, 11 and 12).

The resources in the toolkit for this study were gathered from many different sources including libraries and websites, assorted by type (checklist, rating scale, etc.), organised according to age or grade level, arranged alphabetically and then categorised during late 2018. By early 2019 the chosen resources had been edited (some resources needed editing because of wording or grammar issues) and compiled, thereby creating the toolkit. This toolkit would be utilised by teachers who participated in this study, to establish if it would be a helpful strategy for identification of underachieving gifted students.

Another recommendation by the Committee (ETC 2012b), was that teachers, principals and school leaders be equipped with the skills and confidence to provide for all gifted

students. The ETC (2012a) found Victorian teachers had limited understanding or knowledge of gifted students mainly because they have not had the opportunities through professional development or in their initial teacher training. Teacher knowledge is fundamental to the method and practice of teaching. Teaching like any other profession is a process that requires comprehensive and practical training to develop knowledge and skills in order to be effective in teaching and learning. Over a period of time, educators need to update their knowledge by attending professional development programs relevant to the changes and challenges in education. In Victoria, the Department of Education and Early Childhood Development (DEECD) document *Aiming High* (2014), recognised there were benefits for the training and continuous professional development of educators. This document implied that to be effective in teaching and learning, teachers need to have comprehensive and adequate training for their knowledge and skills to be developed. Also, according to Morrissey and Grant (2017), participation in professional development for early childhood teachers and early-years primary teachers on challenging learning experiences enabled identification of advanced learners.

However, Lyons (2014) found teachers in her study, some of whom had been working for over 30 years, had not had any professional development on giftedness, either pre-service or in-service, and because of this, were unaware of many of the characteristics and behaviours associated with giftedness. Margrain (2017) recognised, that early childhood educators want to make a positive difference for all their students; so why does quality practice for gifted children seem to be elusive to teachers? She identified three reasons for this: firstly, teachers lack pre-service and in-service education on working with gifted children; secondly, myths and misunderstandings abound about giftedness and gifted education; and thirdly, with reference to New Zealand in 2017, there were no recommendations in that country's early childhood curriculum for giftedness and gifted education practice (Margrain 2017). The absence of specific recommendations for gifted educational practice 'can result in lack of teacher awareness of responsibility, and limited response and support to children' (Margrain 2017, p. 25). Although Australian early childhood settings usually encouraged a

pedagogy that allowed children to engage in exploration, socialisation and play-based learning, this pedagogy does not always cater to the needs of children who are gifted.

Morrissey and Grant (2017) developed three professional development programs which were implemented during 2015 and 2016 for 66 early childhood educators in Australia. They found that the programs increased educators' knowledge and skills. Moreover, participants' responses indicated that the programs improved their professional capacity to identify young gifted children. They argued that the implementation of professional development, had the potential to provide young gifted children with an appropriate education that would meet their needs. Heller and Schofield (2008) claim it is nearly impossible to support the development of the child who may be gifted, without adequate knowledge of the identification criteria for giftedness, and without the contribution of early years' educators and the child psychologist. They are all significant in the early identification process.

1.2: Underachieving gifted students

Underachieving gifted students are very hard to identify especially because many of them deliberately do not reach levels of achievement associated with their potential. This happens for many reasons even though there are many resources which can help with recognition. Being able to understand the various characteristics and behaviours associated with giftedness and underachievement can also help with recognition. Giftedness for this research refers to children who have high potential. Although giftedness can be found in many domains, this research refers to the intellectual and academic domains. Giftedness occurs in between 10% and 15% of the population (Gagné 2008), with the Victorian ETC claiming that there is an average of at least 'one gifted child per classroom' (ETC 2012a, p. 6). According to Plucker and Callahan (2014), giftedness is developmental and without recognition and proper instruction, these students will not reach their expected potential. These researchers also commented that performance and achievement are the earliest signs of giftedness (Plucker & Callahan 2014).

Underachievement is about the estimated potential of an individual and their achievements not being realised (Montgomery 2000 & 2009), and this also applies to underachieving gifted students. Underachieving gifted students commonly refers to students who have a significant discrepancy between their exceptional ability and actual achievement (Reis 2005). According to the Victorian government 'up to 50% of gifted students underachieve' (ETC 2012a, p. 1). It has also been estimated that up to 50% of underachieving gifted students will never even be identified as gifted (ETC 2012a).

1.3: Purpose

The ETC (2012a) found the 'Victorian education system is not meeting the needs of gifted students' (p. xxiv). The identification of gifted students in Victoria in 2012 was haphazard 'with the identification of gifted students only occurring later in their education or not at all' (ETCa 2012, p. xxiv). This report further commented, that students, teachers, schools, and parents need to be provided with more support and information from DEECD. The ETC (2012a) reiterates that 'gifted education must be available in every classroom in every Victorian school' (p. xxiv). Although this would be the most equitable way for gifted students to access programs allowing them to have their needs met, this is certainly not what is happening. The inquiry called for 'a much more coordinated and evidence-based approach to gifted education in Victoria' (ETC 2012a, p. xxiv). Despite these calls for action, it would seem 10 years later that most of the recommendations by the ETC (2012b), have still not been addressed.

The rationale of any project should be to provide 'a specific and accurate synopsis of the overall purpose of the study' (Locke et al. 1981, p. 5). The purpose behind this project was to establish a way in which teachers could more readily recognise giftedness in students, especially with underachieving gifted students. The literature review and the results of a previous research (Lyons 2014), revealed inconsistencies with the ways in which teachers recognised underachievement in gifted students. Several reports (DEECD 2010; ETC 2012a; Hughes & McGee 2011; Lee 2002) have outlined a range of reasons for this such as minimal pre-service or in-service training, inadequate support, insufficient and poor resources (Grant 2012); and the fact that

'most Australian universities do not provide specialised studies in gifted education for teachers' (Matheis et al. 2020, p. 216). Limited school interventions have been directed at education of gifted students, even though the literature and other states and territories, who have government policies, state it is necessary. So, why is there still a problem with recognition, identification, and the education of gifted students in Victoria?

1.4: Significance

In the Australian educational context 'underachievement' and 'giftedness' have been seen as controversial issues. The ETC (2012a) noted these controversial issues include negative views about giftedness and misinterpretations of underachievement. For example, giftedness has been unfairly associated with privilege, elitism, pushy parents, and these students not needing to have interventions. In addition, researchers and teachers have different or competing views on underachievement and giftedness, and whether giftedness is even an aspect of academic performance.

The recognition of students' giftedness is important in making sure that their educational needs are met. Being able to recognise and identify gifted students including underachieving gifted students, allows teachers to extend and promote the talents of gifted students. Underestimating a child's giftedness increases the risk that a child may not get the right learning experiences (Hodge & Kemp 2006). As Margrain, Murphy and Dean (2015) understand, underestimating a student's giftedness can lead to underachievement because their education is unlikely to 'effectively stimulate and enrich the gifted child' (p. 10).

The Department of Education, Early Childhood Development (DEECD) (2013a) found gifted students can become underachievers when there is a lack of recognition and response, which results in these students not reaching their full potential. The strategy *Aiming High* recognised that 'all children and young people, including those who are gifted and talented, are entitled to have their abilities recognised and to have the opportunity to realise their potential' (DEECD 2014, p. 11). Nevertheless, the ETC (2012a) inquiry found that failure to acknowledge or identify giftedness can lead to

underachievement in gifted students. The reality of the situation could mean as many as '42,500 Victorian gifted students are not reaching their full potential' (ETC 2012a, p. 1), with up to 50% of these gifted students never being identified. With just over one million students in Victoria (DET 2022b), and using Gagné's (2020a) estimate of 10%, there are approximately 100,000 gifted students. Using the ETC's (2012a) report of between 10 and 50% of these students underachieving, there could be as many as 50,000 underachieving gifted students in Victoria. The inquiry (ETC 2012a) also found schools hindered students' achievement, by their failure to acknowledge high achievement. This could account for Victoria's high number of gifted students who are left unidentified and who do not achieve.

The Victorian Government (ETC 2012a) found lack of identification for gifted students can lead to many problems including underachievement. The ETC (2012a) and DEECD (2013a; 2013b), recommended the use of a toolkit which will help teachers recognise underachieving gifted students as a major part of their strategy. However, as this toolkit had not yet been developed or introduced and no previous research had been conducted on the viability of a toolkit, there was no way of determining whether this recommendation would impact positively on teacher practice or effectively help identify gifted students. Allan's (2002) review of international research demonstrated 'the use of rating scales, consisting of verified indicators of gifted behaviours, might be the best means of early identification of giftedness' (p. 4).

The toolkit for this current study was developed by the researcher especially for this research. Using the researcher's toolkit, which includes resources such as Allan's (2002) and Montgomery's (1996 & 2000) rating scales, Hodge's (2013) and Silverman's (1993 & 2019) rating scale and checklist, the participants would investigate the viability of a toolkit. From its outset, this research was based on the supposition that underachieving gifted students are not being recognised by teachers. Having so many gifted students underachieving in Victoria is clearly not acceptable. By introducing a toolkit into the classroom, students who are gifted should be able to be identified, justifying this course of action.

Yang (2009) acknowledged that 'selecting instruments to identify gifted students is difficult and problematic, especially when it comes to young, gifted children' (p. 2). The development and growth of children up to the age of six years happens so rapidly, it can hinder identification. The importance of identification beginning as early as possible for children's social, emotional, and academic wellbeing is recognised by Heller and Schofield (2008).

Gathering as much information about indicators of giftedness for each child was an important aspect in Hodge and Kemp's (2000) observational study of 17 children. Their study confirmed the value of information gathering. With an interest in giftedness, the outcome of the Victorian government inquiry, and the governments' lack of action about a toolkit, the best course of action was to look at the research literature for information about toolkits and their effectiveness. Presently there is a gap in the research literature regarding the effectiveness of toolkits for the identification of giftedness whether online or in hardcopy. Although, toolkits are used in many aspects of education, such as, professional development for teachers, the use of a toolkit for identification of giftedness has not been investigated. With so many underachieving gifted students in Victoria, the number of unidentified gifted students cannot be justified in our current education system. Therefore, as the Victorian government had not produced a toolkit, a toolkit was produced and utilised to identify, from a teachers' perspective, how useful it would be for the recognition of underachieving gifted students.

Although the goal of this qualitative study was to determine the viability of a toolkit, it also investigated what knowledge the teachers had on the characteristics and behaviours associated with underachievement and giftedness in their students, prior to and after the intervention. This would establish what knowledge (if any) was gained as a direct result of using the toolkit. In order to explore a phenomenon, qualitative researchers can use a wide range of strategies which can bring together multiple perspectives of the participants and then possibly arrive at an outcome for that particular phenomenon. As such, teacher's knowledge of giftedness was assessed prior

to and after the intervention (survey responses) and their comments about the toolkit (interviews), were compared. This would identify if their survey responses correlated to their comments about the toolkit.

Underpinning this study is the recognition that teachers greatly influence students' educational outcomes. To improve outcomes, teachers need the confidence, skills, and abilities to be able to provide appropriately for all their students.

To clarify, the use of the word 'resource' describes the checklists, rating scales, and self, parent, and teacher nomination forms. According to Collins Dictionary (2023) a resource is something that lies ready for use or that can be drawn upon for aid or to take care of a need. In other words, a resource is something you can use to achieve an objective which in this case is: Will the resources help teachers identify giftedness?

1.5: Research question

Accordingly, this study was guided by the following question:

To what extent is the developed toolkit, for this study, a viable strategy to support teacher recognition of underachieving gifted students?

In order to try to answer this question, surveys and interviews were undertaken to establish whether or not a toolkit would increase teacher's recognition of giftedness, especially in gifted students who are underachieving.

1.5.1: Sub-questions

There are also sub-questions that need to be addressed:

1. What are teacher's perspectives on the use of a toolkit for the recognition of student giftedness?
2. What factors impact the successful use of the toolkit?
3. What resources do the teachers value within the toolkit?
4. Will the Victorian Government resource located in the toolkit be enough for identification?

The following questions were incorporated into the study to investigate the knowledge the participants gained (if any) from implementing the toolkit. By doing this, many of the

questions were included in the interview schedule. Therefore, this research also considered the following questions:

1. How do teachers understand the term: 'Underachievement'?
2. How do teachers understand the term: 'Gifted'?
3. What are the indicators that teachers look for in their students when considering underachievement and giftedness?
4. What do teachers look for when deciding if a student may be gifted?
5. Will the online High-ability toolkit developed by Victorian Education Department be a viable strategy for identification?

Individuals who are gifted and underachieving are not realising their potential and are not attaining expected levels for students with their ability. Davis, Rimm and Siegle (2011) state such children have the potential for high achievement. The Victorian Education Department has prioritised the engagement of students' learning so that they will get the support they need to engage in their learning and therefore develop abilities to their utmost potential (DEECD 2010) and in the United Kingdom, the Department for Children, Schools and Families emphasised that 'All children have the right to have their abilities recognised and developed' (DCSF 2009, p. 5). Even though DEECD (2010) prioritised developing abilities to student's utmost potential, it is clearly not what is happening in Victoria with so many gifted students not being identified and not reaching their potential. Teachers need to be able to provide appropriately for all their students because 'educational outcomes of students are influenced greatly by teachers' (ETC 2012a, p. xxvi). Matheis et al. (2020) also agreed that teachers influenced the development of student's learning and their talents. Indeed, with this current PhD research, most of the participants wanted to be able to identify gifted students in their classroom and were interested in implementing, and finding out what the toolkit was about so that they could cater to all their student's needs.

While the overall aim of this research was to interpret the perspectives of the participants on the toolkit, it also established what their pre-intervention knowledge and practices were - their current knowledge or iterational dimension of teacher agency in respect of underachievement and giftedness; how they recognised gifted students and if they had any professional development in these areas. The epistemological advantages

of investigating the developed toolkit were to see if it was a viable strategy in supporting teachers to recognise giftedness, which would be a precursor to program differentiation and thus an important element for gifted students having their educational needs met.

The ETC (2012a) highlighted the need for action especially in gifted education. They found there were significant issues with Victoria's provision for gifted and talented children and insufficient support for teachers and families. It was clear with the researcher's study (Lyons 2014) that teachers were unable to recognise giftedness or underachievement and they stated that they had not undertaken any professional development in these areas. Professional development is a necessity for the improvement of teacher practice and therefore to improve children's learning. Examining teachers' perceptions of underachievement and giftedness, and their use of a toolkit, may provide insight into why recognition remains a problem and what could be most helpful to teachers in mediating this problem.

1.6: Summary of Chapters

Chapter One outlined the purpose and significance of this study. It defined underachievement and giftedness and identified that there are too many gifted students underachieving. It looked at from where and why the notion of a toolkit occurred, and why there is a need to identify underachieving gifted students.

Chapter Two involved the literature review looking at past and present concepts of giftedness and underachievement; and the enigma of underachieving gifted students. This chapter discussed the various characteristics, behaviours and indicators of underachievement and giftedness, especially those of underachieving gifted students.

Chapter three involved the theory, the conceptual framework and methodology for this study. This chapter involved this study's underlying theory: Teacher Agency Theory or TAT. This is a relevant methodological theory for this research because the teachers' interpretations of giftedness, underachievement, and the toolkit, along with the

researchers' interpretations of the teachers views and ideas (teacher's agency), were used as the main source of data.

Chapter Four involved investigating the toolkit and its contents.

The toolkit is comprised of established resources used by prominent researchers in the field on the education of gifted students. The researchers included Hodge, Kemp, Montgomery, Morrissey, Rimm, Silverman, Spratt, and many more. There are over 30 different types of resources including checklists, rating scales, observational charts, and questionnaires. The resources are made up of characteristics, behaviours and indicators of underachievement and giftedness.

Chapter Five investigated the data obtained from the pre-survey and post-survey. This chapter involved the experts and the participants' choice of response to the survey, both individually and comparatively. This research investigated, whether or not, the participants and experts agreed or disagreed about the survey questions. This chapter involved analysing, and describing this data using thematic analysis and impact assessment.

Chapter Six investigated the data that was obtained from the meeting and interviews. The chapter deals with the participants responses during the initial meeting, the interviews and fieldnotes. This data is investigated by analysing the participants perceptions of giftedness and underachievement; their changed views on these issues; the resources the participants implemented and why; the participants ideas and comments about the resources; and their perceptions about the toolkit.

Chapter Seven discussed the findings from all the research data that was presented in chapters five and six. This chapter investigated the impact of the professional development and the use of the intervention. This chapter described the participant's perspectives of the resources, wording issues encountered, time constraints, and more.

Chapter Eight revealed the research limitations, outcomes, and recommendations of this study.

The next chapter investigates the research literature.

Chapter Two: Literature review

'Any discussion of issues relating to underachievement in gifted students must carefully define both the constructs of giftedness and underachievement'

(Reis & McCoach 2000, p. 152).

This chapter encompassed the historical and current concepts of giftedness and underachievement in giftedness. It involves various views about giftedness, underachievement and underachieving gifted students. Chapter two identified what both terms meant, the definitions that have been allocated and the identification processes utilised. It also investigated the percentage of the population classified as being gifted. This chapter then connects underachievement and giftedness examining underachievement in gifted students; issues of teacher professional development (or lack of them); and the approaches teachers take for identification. As Cook (2018) noted, 'While Victoria's logo is the 'Education State', analysis of Victoria's schools show they are not doing enough to excel high-achieving students' (Cook 2018, The Age, 22 October). In other words, Victorian schools are not adequately providing for their gifted students.

2.1: Giftedness and underachievement

This chapter delves into the questions of 'What is giftedness?' 'What is underachievement?', 'What is an underachieving gifted student?' and 'What is stated in the literature?'. These are complex questions which involve varied global issues, societal factors and ideas that have developed over many years. There are also issues around 'At what point does underachievement end and achievement begin?' (Delisle & Berger 1990, p. 1). Giftedness though, is a contentious issue which requires an in-depth analysis to be able to respond to the question 'What is giftedness?'

2.2: Context of giftedness

Teachers can have differing ideas or knowledge about what constitutes a gifted student, and this can impact on gifted students being recognised or not. How giftedness is understood and recognised is important for students' wellbeing and their future.

Sternberg (2004) stated 'The way we conceptualise giftedness greatly influences who will have greater and lesser opportunities to contribute to future society' (p. xxv).

The purpose of defining and identifying giftedness in young children is to recognise individual interests, qualities, and abilities. Defining giftedness and underachievement as well as having an identification process, differentiated programs, opportunities for enrichment, extension, acceleration, social emotional support and so on, will help minimise barriers to success and ensure that gifted potential can be realised. The Victorian policy document *Aiming High* (DEECD 2014), stated that 'professionals and teachers can support gifted and talented and young people by becoming familiar with definitions of giftedness and talent, and supporting effective identification' (p. 20). There are two types of identification measures for giftedness: subjective (qualitative) and objective (quantitative). Subjective measures can be used as a recognition tool for potential identification of gifted students.

Students who are gifted are present in every school and includes: students who are gifted and underachieving, students who require learning support, students who have a disability, students who come from non-English speaking backgrounds, students who come from culturally diverse backgrounds, geographically isolated students, and socio-economically disadvantaged students. Many gifted students can also belong to multiple groups. For example, a gifted student may be an underachiever and have a disability; a gifted student may be from a non-English speaking background, who requires learning support; and who could also be geographically isolated. ACER (2015) recognised that too many of Australia's most able students were coasting along and not achieving their true potential (ACER 2015).

'*The Australian Curriculum*' articulated a commitment to all students. However, the Victorian inquiry into gifted education stated the system is failing many gifted students (ETC 2012a). Morrissey (2012) stated 'every early childhood educator works with gifted children, whether they realise it or not' (p. 5). Her view of giftedness was based on the intellectual development of the child. She believed these children can be assessed as

gifted when they show advancement in their intellectual development compared to their peers. As explained by Grant and Morrissey (2019), gifted education studies have neglected research into early childhood giftedness even though it is necessary for early childhood educators (as well as all other teachers) to be able to identify gifted children, and to be able to plan a curriculum that will cater to their needs.

2.3: Defining giftedness

There have been many definitions of giftedness. Vialle and Gibson (2007) commented that there have been many factors which have 'influenced the evolution of a definition of giftedness' (p. 206). Coleman (1985) suggested the definition of giftedness correlated to 'changes in our knowledge, and to changes in our social and political lives' (p. 16). Vialle and Gibson (2007) believed there would never be a single definition of giftedness but many varied definitions, especially in relation to different cultures. Aside from this, Coleman (1985) argued that a definition of giftedness is extremely important because the description is 'tied to how one might identify persons with gifted characteristics' (p. 7). Defining giftedness is a complex issue because there are so many perspectives and variances to consider. Feldhusen (2005) described gifted children as being motivated, creative, knowledgeable, and having intelligence, a good self-concept, and special talents. Australian states and territories have taken on the definition of giftedness from, François Gagné's Differentiating Model of Giftedness and Talent (DMGT) (2008; 2020). This model described talents (or competencies) as age and training related, with talents demonstrated as time goes on; but children's gifts (or natural abilities) are inherent independently of age, and these are more likely noticed in the early years (early years can include children up to 8 years of age.). Even using Gagné's description of giftedness, the concept of giftedness has resulted in many discussions and debates. While numerous definitions have been assigned to the concepts of achievement and intelligence, and by extension to giftedness, obtaining a national definition of giftedness remains complicated, complex, and controversial despite the Australian Curriculum, Assessment and Reporting Authority (ACARA) (2016) wanting a common understanding between the states and territories. ACARA (2016) recognised 'giftedness and talent in students result in their displaying a selection of characteristics at home and

school that are significantly above average for their age' (ACARA 2016). Some researchers have given uncomplicated definitions of giftedness and others have claimed giftedness is a much more complex behaviour.

There has been a lack of understanding and agreement about what is actually meant by gifted and talented. The DEECD document *Aiming High* (2014) claims 'gifted individuals possess outstanding natural intellectual, physical, creative, or social abilities' (p. 8). In fact, this was adopted from Gagné 'in which giftedness is understood as outstanding potential and talent as outstanding performance' (DEECD 2014, p. 8). Although the DEECD's document (2014) was never adopted due to a change in state government, no other policy for the gifted has been implemented. In fact, Victoria's gifted education system has been 'highly influenced and shaped by political reasons' (Kronborg & Cornejo-Araya 2018, p. 5; Plunkett & Kronborg 2007). In reaction to this, in 2018 the Association for Gifted and Talented Education in Victoria (AGATEVic) was established to offer professional learning to teachers and contribute to the development of a gifted education policy (Kronborg & Cornejo-Araya 2018).

Victoria's (ETC 2012a) accepted definition of giftedness was understood as 'outstanding potential which involves advanced development beyond age-typical expectations (p. xiii); and a potential for advanced learning and achievement in one or more areas' (Morrissey 2012, p. 11). The Department of Education and Training's (DET) (2021) latest definition incorporated the term high-ability as opposed to giftedness. According to the Principal Policy Officer (PPO) for the DET 'The shift to using language 'high-ability' was based on it being a more inclusive term. The term also allowed us throughout programs, to reach a broader/larger range of high-ability students' (PPO 2022, personal communication, 14 February). The DET's (2021) definition states:

High-ability is used to indicate high potential and/or performance across the full suite of human abilities...high-ability refers to students whose ability is more advanced than that of similar aged peers across one or more domains
(DET 2021, Defining high-ability, para. 1).

Incorporated in their definition, the DET (2021) has included students who may be underachieving and gifted. Another association, the Victorian Association for Gifted and

Talented Children (VAGTC) (2022) has also introduced high-ability for their terminology for understanding gifted and high-ability learners. However, the way they are using these two terms makes them appear to be two different concepts, as did using gifted and talented.

To help minimise the confusion about 'What is giftedness?', it is advantageous to understand where the term came from and the various perspectives of giftedness.

2.3.1: *Historical perspectives of giftedness*

Formal education began in Victoria in 1872 (State Library Victoria 2021, Formal education in Victoria) and was structured based on age related development. Children were grouped by age and differences in their abilities were noticed and identified. But in doing this, formal education has denied the existence of individual differences in children's development, and therefore gifted children have been ignored and overlooked. As such, gifted education has not been recognised as an important part of education in Australia. It was not until 1882, that the idea of giftedness surfaced.

There have been many notions of giftedness in the literature over the years including those by: Galton (1869), Binet (1896), Terman (1922), Hollingworth (1926), Barbe and Stephens (1961) and Kirk (1972). Galton (1869) referred to children who could inherit their gifts and talents from their parents as being gifted because 'Man's natural abilities are derived by inheritance... Consequently, as it is easy to obtain by careful selection permanent breed of dogs or horses gifted with particular powers of running, so it would be practicable to produce a highly-gifted race of men' (p.1); Terman extended Galton's view to include IQ; and Hollingworth referred to gifted children having high potential (Hollingworth 1926). It was in 1896 when Binet and Simon came up with the first intelligence test. The test involved describing how terms had different meanings, counting objects in pictures, noting similarities in familiar objects, and filling in missing words in a sentence.

This followed in 1916 with Terman helping to prepare the Stanford revision of the Binet test. By 1925, Terman had disseminated Galton's theories of natural ability by translating his beliefs into the widespread understanding that the key factor in underlying success was that general intelligence was not necessarily derived by inheritance. A year later in 1926, a psychologist named Hollingworth pointed out that 'Gifted refers to children who have high potential and that for a child's potential to be developed it must be nurtured' (Hollingworth 1926, pp. 280-281). Although she developed a gifted and talented curriculum over several decades, she recognised that gifted students wasted their time in regular classrooms (Hollingworth 1926). In 1961, Barbe and Stephens indicated a gifted child is one who possesses creative leadership ability and in 1972, Kirk described the gifted child as having superior ability to deal with ideas, facts, and relationships. It was not until 1973, that Herrnstein argued that the power of IQ scores would not only predict success in school but also success in life.

Over 20 years later, Herrnstein and Murray (1994) developed the Bell Curve to show how IQ scores would be distributed across a population. Most people fall in the IQ range of 85 to 115 (approximately 68%), with 100 being the norm, but it is recommended the further away from 100 a child's IQ score is, regardless of whether it is above or below 100, the greater there is a need for special educational provisions (Gross 2004). Using the Bell Curve, it would mean 32% of the population would lie outside the normal range, indicating approximately 16% would lie above and below the norm. In other words, generally, there are as many students with learning disabilities or learning difficulties as there are gifted students (Lassig 2009). However, the Bell Curve has been widely condemned (DeAnglis 1995; Sternberg, Jarvin & Grigorenko 2011). It has been associated with excluding abilities such as the importance of practical intelligence (e.g., fixing engines), creativity and personal intellect such as character, virtue, and morality. In other words, IQ tests are limited in their ability to predict non-academic intellectual ability. Sternberg, Jarvin and Grigorenko (2011) contend that intelligence cannot be measured because it is one of the most elusive concepts. Nevertheless, in statistics they are important because they model a wide variety of real-world data, including IQ scores of a population.

Based on IQ results, any student who had an IQ of less than 85, would be considered to need specialised instruction or a modified curriculum. Lassig (2009) stated 'Students with special needs due to learning difficulties or disabilities, are provided with specialist educational provisions to support their development' (p. 32), yet most schools in Victoria do not use a modified curriculum for gifted students. Why? Wellisch and Brown (2012) argued that children who have an IQ greater than 125 should be included in gifted programs.

Academic achievement, is what most gifted programs or services are based upon. Therefore, any underachieving gifted students would probably be not identified and not included in those programs. Giftedness is often described as having a high IQ but more often than not, the IQ of a student is not actually known. Gagné (2008) recognised that for an individual to be considered gifted they 'should be in at least the top 10 percent of age peers' (p.1).

Australian gifted education emerged as a general concern in 1983 at the World Council for Gifted and Talented Children (WCGTC) conference resulting in the establishment of the Australian Association for the Gifted and Talented (AAEGT) (Kronborg & Cornejo-Araya 2018). In 1989, the AAEGT held the WCGTC conference in Sydney and in 1992 published its first journal: *The Australasian Journal of Gifted Education*. Since then, the AAEGT has published two journals every year. But with more than 30 years developing knowledge about gifted students, Australia still faces resistance to the education of gifted students (Kronborg & Cornejo-Araya 2018).

In fact, there have been serious barriers to gifted education including negative attitudes of teachers, parents, and education policies (or lack of them), that have not supported gifted students educational and developmental needs (Bainbridge 2017; ETC 2012a and ETC 2012b; McCoach & Siegle 2007). These negative views included specifically catering for gifted students was viewed as being elitist; pushy parents which resulted in children being deemed gifted; and misconceptions such as the belief that gifted

students will succeed without any special assistance. Bainbridge (2017) found that parents are told 'your child is not really gifted'; 'all children are gifted'; 'I don't like using the word gifted' or 'there is no such thing as giftedness'. Indeed, there were schools that were approached to participate in this current PhD research who did not want to be involved in the research because of the word 'gifted'.

Misunderstandings can occur, for example, intense behaviours of gifted students can be mistaken for anti-social behaviours (Margrain 2017), and the idea that giftedness only occurs later in childhood. The latter issue has been 'discounted because of several New Zealand case studies of young gifted children' (Margrain 2017 p. 17). These case studies include Dean 2011, Margrain 2017, and Margrain, Murphy and Dean 2015. There have also been controversy and division between catering for more disadvantaged groups than addressing the needs of gifted learners (Jarvis & Henderson 2015). Meeting the needs of gifted children can be problematic when there are too many inconsistencies and discrepancies associated with the education of gifted students. The ETC (2012a) inquiry into the education of gifted and talented students calls for 'a much more coordinated and evidence-based approach to gifted education in Victoria' (ETC 2012a, p. xxiv).

Freeman (2005) argued that the major benefit of historical studies on gifted students had been the development of identification procedures with behavioural characteristics for identification, where the indicators of giftedness can be recognised, gifted children identified and the right procedures can be implemented. However, relying on IQ assessments or achievement tests can be unreliable for children under six years of age (Grant & Morrissey 2019; Pfeiffer & Petscher 2008), but according to ETC (2012a) and Gottfredson (1998) respectively, IQ assessments are one of the 'most reliable measures of intellectual potential' (p.86) and IQ 'is the most effective predictor known of individual performance at school or on the job' (p. 25).

2.3.2: Contemporary perspectives of giftedness

Over the course of history, perceptions have changed and developed on giftedness and gifted education. More recently, in psychology, Clark (2012) referred to gifted students as,

Children who give evidence of high-performance capability in areas such as intellectual, creative, artistic, leadership capacity or specific academic fields, and who require services or activities not ordinarily provided by the school in order to fully develop such capabilities

(Clark 2012, p. 27).

Having high potential is only one aspect that makes a student gifted. This definition makes the distinction between what a child will achieve and what a child can achieve and this only occurs if the school, the home, and wider society, identify and provide services to cater for their needs. However, giftedness as specified by Subotnik, Olszewski-Kubilius and Worrell (2012) is 'performance that is clearly at the upper end of the distribution in a specific talent domain even relative to other high-functioning individuals in that domain (p. 176). Therefore, Subotnik, Olszewski-Kubilius and Worrell (2012) incorporated a comparative stance in their definition. The National Society for the Gifted and Talented in the United States of America (NSGT) defined giftedness as 'Children and youth with outstanding talent who perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment' (NSGT 2018). NSGT's (2018) definition has been in existence for 25 years, and recognised that students have the potential to achieve or can achieve, at levels markedly above students of a similar age. But Davis, Rimm and Siegle (2011) showed that gifted students may not be high functioning and can be found among students who do not perform well in examinations. These are the students that are likely to remain unidentified, and these are the students who should be recognised as gifted and have their needs met.

While Hollingsworth's definition included high potential, Harrison (2003; 2013) extended this to include the need for support from family, community, and educational contexts.

Harrison (2003) defined giftedness in this way:

A gifted child is one who performs or has the ability to perform at a level significantly beyond his or her chronologically aged peers and whose unique abilities and

characteristics require special provisions and social and emotional support from the family, community and educational context.

(p. 19).

Harrison (2013) identified a gifted student as one who has the potential to perform or who performs, at a level well above their peers and for whom special provisions need to be in place to foster their unique abilities. This definition allowed for differences in ability and characteristics, and acknowledged that not all gifted children demonstrated their potential.

Of course, there are many more versions or theories of giftedness: those by Tannenbaum (1986), Byrne (2002), Gagné (2003 & 2008), Feldhusen (2005), Winner and Von Károlyi (2005), Van Tassel-Baska (2005 & 2009), Renzulli (2009), just to name a few. According to Byrne (2002), Renzulli's impact in giftedness 'was at its greatest in Victorian schools in the 1980's and early 1990's, even though a very narrow picture of giftedness existed' (p. 21). Trying to establish a definition of giftedness, Renzulli (2009) argued there are two distinct groups of giftedness: schoolhouse giftedness and creative-productive giftedness. Schoolhouse giftedness is usually noticed by teachers because these students score highly on tests and excel at school. This is usually the group selected to participate in gifted programs. The problem with this is, if a student does not reveal their ability, then school achievement would not be realised, and the student would not be identified by the school as being gifted (Sternberg, Jarvin & Grigorenko 2011). In Australia, Byrne's (2002) study 'was one of the first pieces of research to highlight the issue of gifted underachievement' (Plunkett 2023, Examiner's notes, p. 5).

The other type of giftedness mentioned by Renzulli (2009) is creative-productive giftedness which is usually shown in adults but can be found in children also. This type of giftedness is shown by works of art, music, in writings, experiments, and so on. These features of human activity result in products that are original and purposefully designed to have an impact on specific audiences. Renzulli's (1986) theory, the three-ring conception of giftedness, considered gifted behaviour to be where all three rings intersected. That is, giftedness is the intersection of high average ability, creativity, and

task commitment. Renzulli (2009) also stressed the importance of formal identification because it becomes part of guidelines that can be used for programming practices in schools and a way to become familiar with identification practices. Tannenbaum (1986), classified giftedness as 'potential for becoming critically acclaimed performers or exemplary producers of ideas in spheres of activity that enhance the moral, physical, emotional, social, intellectual, or aesthetic life of humanity' (p. 33). This fits with Renzulli's theory of creative-productive giftedness.

These varied definitions can result in schools using different criteria for giftedness. This can bring about a situation where one school may identify a student as potentially being gifted, while another school may not identify the same ability student as being potentially gifted. Many primary and secondary schools in Victoria have developed their own approaches or sourced external programs to extend gifted students' learning within the classroom (DET 2018b), but this does not happen in all Victorian schools. It is important when deciding on a definition of giftedness, that the same definition is used across the whole school and preferably across the entire State or Nation. But if the experts cannot agree, how can we support gifted students to reach their full potential? Research studies (Hoover-Schultz 2005) have shown that experts in giftedness cannot agree on a definition of giftedness, which could result in schools being unable to identify gifted students or a school's ineffectiveness to generate a school policy.

There are three areas of concern with defining giftedness according to Sternberg, Jarvin and Grigorenko (2011). That is, it is a superfluous or an outdated concept; giftedness is measured by assessments; and the measurement of giftedness is incomplete. They believed, as did other researchers, that assessments do not measure all of giftedness and in most cases, most of it (Reis 2005; Renzulli 2005). As explained by Davis, Rimm and Siegle (2011) 'defining gifted and talented is an important and a complicated matter' (p. 16). They are of the opinion that there are four practices that can hinder students being identified and included in programs:

1. The selection process for giftedness is defined by the school district.

2. There is danger one's definition and consequent identification methods will discriminate against special populations such as the poor, minority, handicapped, underachieving, and even female students.
3. Definition is usually an aspect of programming practices. Opportunities should be made available for different types of gifts and talents.
4. The labelling effect of defining a student as gifted can have both positive and adverse effects.

(Davis, Rimm & Siegle 2011, p. 16)

Although Davis, Rimm and Siegle (2011) stated that giftedness is usually defined by the school district, individual government schools in Victoria can have their own definitions. The Department of Education and Training (2022a) state there are three types of gifted students: achieving, underachieving and twice-exceptional (High-ability student profile, para. 1). Reliability in identifying gifted individuals is a major concern, despite more than 100 years of research on giftedness (Ziegler, Stoeger & Vialle 2012).

2.3.3: *Gifted and talented: are they different terms?*

The two terms 'gifted' and 'talented' are generally placed together. But giftedness does not necessarily mean talented, and talented does not necessarily mean giftedness (Harrison 2013), even though they do frequently appear together. The ETC (2012a) inquiry recognised that 'talented students have already realised, or are well on the way to realising, their full potential' (p. 11), and the focus should rather be on gifted than talented students. A complexity that arose during Lyons' (2014) study involved the term 'gifted and talented'. The participants in Lyons' (2014) study did not want to use either term, let alone together. Gagné (2008) distinguished between the two terms 'giftedness refers to natural abilities and talented usually refers to developed abilities' (p. 1). Gagné asserted that abilities are innate or unlearned and talents are what you develop as a result of the interaction of the abilities with the catalysts' (Gagné 2008). In his previous and more recent version, Gagné (2020a) differentiated giftedness from talent.

Heacox and Cash (2014) accepted Gagné's definition, in which gifts are innate abilities (born-with aptitudes) and talents are learned abilities. But if Gagné's concepts were applied to the federal definition 'intellectual ability and creativity would be considered gifts; and specific academic abilities, leadership and, visual and performing arts would be considered talents' (Heacox & Cash 2014, p. 7). This would mean that creativity is

an ability that someone has possessed since birth; and academic ability is actually a learned behaviour. But according to Heacox and Cash (2014) having an academic ability can also mean having an intellectual ability. This would imply that the two domains (intellectual and academic) overlap one another and that being gifted can also mean being talented. The Differentiating Model of Giftedness and Talent (DMGT) presents giftedness as ‘the possession and use of untrained and spontaneously developed natural abilities ... and ... talents as, systematically developed abilities’ (Gagné 2004, p.120). The main difference between these terms: ‘gifts’ are untrained inherent skills and ‘talents’ are trained acquired skills. Another difference is that ‘gifts’ can be noted from a very early age during a child’s development, whereas ‘talents’ are usually noted later on. This is because ‘talents’ are usually developed over time ‘through learning, training and practice, and chance factors’ (Gagné 2004, p. 121). This meant that ‘talents’ would progressively develop into well-trained skills. ‘Talents’ are not examined in this current PhD research because they are developed over time and ‘gifts’ can be noted very early. There are three commonalities between the two concepts gifted and talented: Both concepts refer to human abilities, both are normative (i.e., they refer to individuals who differ from the norm) and both groups of individuals have outstanding abilities (Gagné 2020b). Even though the two terms are interconnected, this current research along with many other studies, used gifted separate from the term talented.

While Gagné (2020a) more recently reiterated that giftedness referred to untaught abilities and talented usually refers to developed abilities that occur over time, he concluded for students ‘to achieve at an exceptional level in any field of human activity, they must first possess ‘gifts’ or ‘natural abilities’” (Gagné 2003, p. 61), and when these ‘gifts’ are nurtured, they will develop and become talented learners. Giftedness in this way denotes potential or natural ability and talent as outstanding achievement or performance. Contemporary views often define giftedness in terms of potential and performance (Harrison 2003), including the Education and Training Committee (ETC) (2012a). According to London Gifted and Talented (LGT) (2009), approximately two thirds of a ‘gifted and talented’ cohort are gifted and one third are talented. This would

certainly indicate that they are different terms but are connected by training and education.

2.3.4: *Using labels*

There has been a shift in the way giftedness is reported and the term gifted is used less frequently in education. Gifted students can be referred to in many ways. These can include: high ability, high potential, exceptional potential, able learners and so on. Different countries may have their own reference for giftedness because there is certainly a shift in how giftedness is portrayed. Even the Victorian Government has changed the wording on their website from gifted to high-ability. The Principal Policy Officer (PPO), Victorian Department of Education in an email indicated a belief that this change will make gifted programs inclusive of more students (PPO 2022, personal communication, 14 February).

In the field of early childhood education, Grant and Morrissey (2019) preferred to use the terms 'advanced learner or 'advanced development' when describing 'the same developmental characteristics of giftedness' (pp. 4-5). Notwithstanding this, their intention is to prioritise 'young children who have the potential to be gifted and develop their talents' (Grant & Morrissey 2019, p. 5).

Whether a student is labelled as either being gifted or having high-ability, problems with identification can still occur because these students are a diverse group 'complicated by factors such as the variety of gifts, degrees of giftedness, low socioeconomic and minority cultural backgrounds' (Wellisch & Brown 2012, p. 151) and as such, these students may be overlooked and not identified.

2.3.5: *Pros and cons of labelling students*

Another dilemma in gifted education is the use of the term gifted or labelling a child. Identification is associated with labelling, but these classifications are necessary in order to obtain any funding (if available at the school level) and for the process of providing appropriate programs. Identification of gifted students is not intended as a

label for them rather it is for diagnostic purposes, e.g., students with special needs. Merrick and Targett (2004a) commented that 'identification is not intended to label children once and for all... Identification should occur throughout a child's educational journey' (p. 4). This would be equitable for all students who are underachieving and gifted.

The Education and Training Committee of the Victorian Government (2012a) recognised there are many positive and negative consequences of labelling. As discussed earlier, negative views and misconceptions connected with the term gifted and talented have been associated with privilege, pushy parents, the association of specifically catering for gifted students is associated with non-egalitarian values, or the idea that students will succeed without any assistance (ETC 2012a). Previous research (Gross 2000; Lassig 2009) showed that Australians tend to have reservations towards giftedness and gifted education. Such reservations include a presumed disparity between equity and excellence (Matheis et al. 2020), and the notion that gifted education is elitist (ETC 2012a; Kronborg & Cornejo-Araya 2018). 'There are negative consequences that may arise if a gifted student's educational needs are not met' (ETC 2012a, p. 76). This included underachievement and disengagement. Although both outcomes involved not reaching the student's potential, there are key differences between students underachieving and being disengaged. Underachievers tend not to show their potential performance and perform at levels below their actual ability, whereas disengaged students tend not to do classwork and/or homework, falling below their ability level and not reaching their potential (ETC 2012a). In fact, the New South Wales Government stated 'disengagement can lead to underachievement' (NSW Government 2020, Underachievement, para. 3). 'Disengagement and underachievement are common problems among gifted students in Victoria' (ETC 2012a, p. 47). Positive implications of this include the urgency of being able to cater for gifted students' needs and therefore allowing these students to reach their potential.

2.3.6: Gagné's Differentiating Model of Giftedness and Talent (DMGT)

The Australian education system has used Gagné's (2008) model for giftedness and talent since 1991 by providing common terminology for schools. Gagné (2008) developed and revised his model many times, with the latest revision in 2020 (Figure 1). When updated in 2003, Gagné incorporated the element of 'potential to excel' (Porter 2005, p. 4), which was essential for identifying students who were not meeting their potential, i.e., the underachieving gifted student. Gagné's (2008) model of identification recognised 'giftedness as a varied approach that involves different abilities such as creative, intellectual, social, leadership and physical skills' (p. 25). Figure 1 showed how Gagné's (2020a) model involved:

Talent (T) in a specific field of activity emerges progressively during a long developmental (D) process that has its foundations in remarkable aptitudes (G, the gifts), and benefits from the constant influence of intrapersonal (I), as well as environmental (E) catalysts.

(Gagné 2020a, DMGT, para. 1)

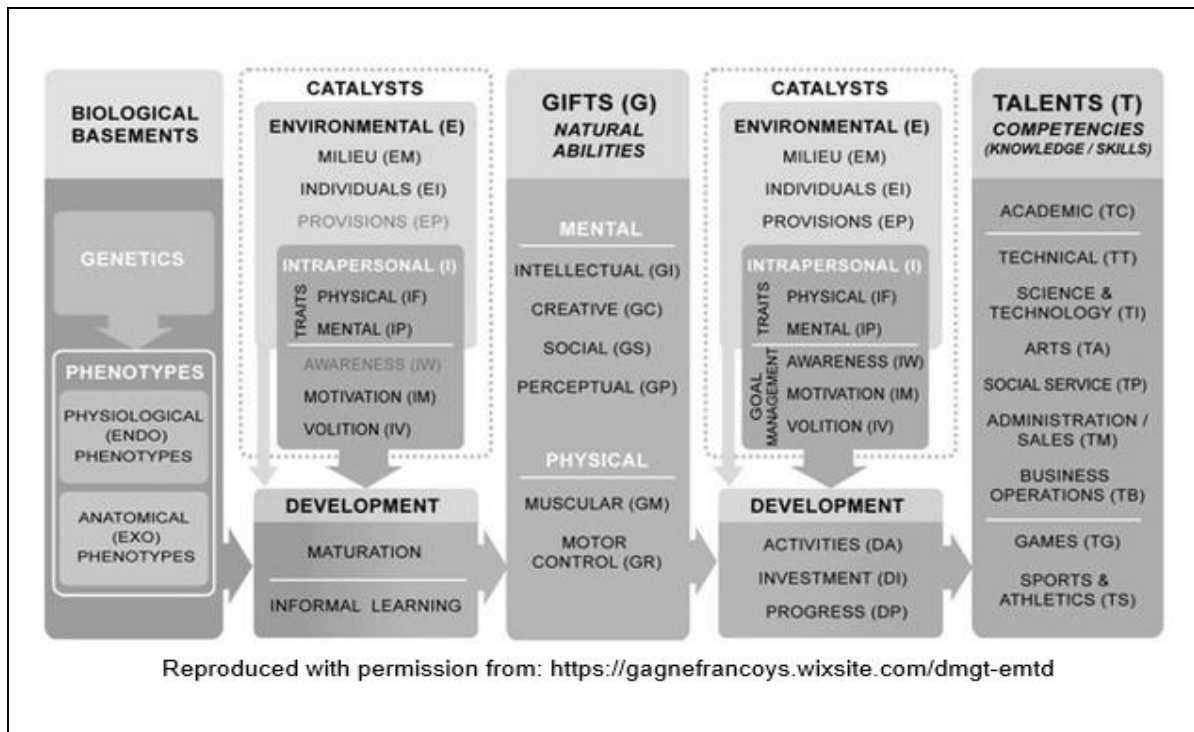


Figure 1: Gagné's DMGT-Extended Model of Talent Development (2020a)

Gagné's (2020a) model covered five themes: DMGT rationale, the five components (gifts, talents, talent development process, intrapersonal and environmental catalysts, and the chance factor), the 'how many' question, the DMGT's biological basement in the Expanded Model of Talent Development (EMTD) which begins with biological foundations, and the basic rules of talent development. Gagné's basement involves genetics. According to Gagné there is no absolute answer for how many students are gifted until professionals agree (2020b).

Gagné's model conceptualises four aptitudes in the mental domain: intellectual, creative, social, and perceptual, with the muscular and motor control being categorised under the physical domain. However, other researchers have identified five aptitudes within the mental domain of giftedness: intellectual, academic, creative, artistic and leadership (NAGC 2018). Each of these domains contains sets of characteristics and behaviours which describe the gifted and talented student. Gifted students are so diverse that procedures for identification (in compliance with the DMGT), must involve numerous strategies for identification to be successful. According to Gagné (2004), all classrooms in every school should be involved with this procedure which: recognised degrees of giftedness and talent; required all domains of gifted and talented to be identified; saw identification as occurring at all stages including early childhood; used multiple criteria; is dynamic and continuous, culturally fair, organised and linked to differentiation; and enables input from everyone involved (Gagné 2004). Identification can be observed and implemented in the school setting using teachers, students, parents, caregivers, and other professionals.

The advantages of the DMGT included the potential to meet all the issues requiring attention in gifted education as well as providing an avenue to address the current concern with the identification process (Gagné 2020b). This model can be effective when applied appropriately so that students can get the most benefit from their learning opportunities. One important aspect of Gagné's model (2020a) (Figure 1) indicated there is a developmental process which giftedness must go through. This developmental process includes a child's personality (intrapersonal characteristics such

as being intuitive, independent, being self-aware, able to work well on their own), motivation and environmental factors (learning experiences and family life). This is where Gagné argued strongly for the heritability of intellectual and other abilities, and advocated for intellectual giftedness to be based on IQ scores. Gagné (2011) also argued that only achieving children should be included in academic programs, but did support a separate pathway for gifted underachievers. A version of this model has been 'used' in the Australian education system for more than 30 years. So why is recognition and identification still a major problem?

According to Wellisch (2016), Gagné's earlier model left out some environmental factors, including environmentally acquired socio-emotional problems, resulting in gifted students underachieving, lacking the possibility of identification and therefore without an appropriate educational pathway. But this has been captured in his latest model. In 2020, Gagné incorporated three more levels into the DMGT. He described these levels as biological underpinnings which involved non-behavioural influences on the growth of natural abilities or gifts. The three levels include: Genotypic foundations, physiological phenotypes, and anatomical phenotypes.

Genotypic foundations cover your genetic makeup (such as a gene which encodes eye colour); Physiological phenotypes are observable characteristics of a person that have resulted from interaction of genotypic foundations with the environment, for example, behaviour, size (i.e., size can be affected by available food supply); and anatomical phenotypes are the biological processes characterising qualities that capture the attributes of a person, e.g., eye and hair colour, height. According to Gagné, these three levels are not associated with the talent component of the DMGT because 'talented behaviours have no direct biological underpinnings' (Gagné 2013, p. 10).

Although Gagné's model for giftedness and talent is 'referred to, applied, used, or adopted', in Australian educational contexts, Merrotsy's (2017) research discovered that some of this in fact is not the case. He found those who referred to the model only quoted or partially quoted definitions of gifted and talented, then made 'little if any further reference to the model itself' (Merrotsy 2017, p. 29).

2.3.7: How many students are considered gifted?

The Victorian ETC (2012a) inquiry, found there were numerous flaws in the methods teachers used to identify giftedness. Most Australian States and Territories have variability in identification methods with the majority using the top 3 to 5 percent of the population as the cut-off point for giftedness. In a study by Colangelo et al. (1993), they used measurements such as class grades, classroom performance and test scores were used to compare gifted high achievers and underachievers. The results of their study defined high achievement as scoring in the top 5 percent. Other studies have also defined achievement in similar ways using academic measurement means (Peterson 2000; Smith 2006).

This actually clashes with ACARA's (2016) and Gagné's (2003) 10 percent. The National Association for Gifted Children (NAGC) (2018) is an American organisation, that also indicated children who are in the top 10% is a good guide for identification and services. An Australian study, Figg et al. (2012) categorised gifted students as being 15 percent of their age peers. Figg et al.'s (2012) study concluded that to be labelled an achiever, a student needed to take standardised tests (e.g., General Achievement Test [GAT]) with a result at the 85th percentile or higher, and these students needed to consistently rank within the top 15 percent for their age group. Before 2008, Victoria used an assessment called the Achievement Improvement Monitor (AIM), which assessed skills in reading, writing, spelling and numeracy of students in years 3, 5, 7 and 9; This was replaced in 2008 with the Australian-wide National Assessment Program for Literacy and Numeracy (NAPLAN). This program also provides a snapshot of a student's reading, writing, language, and numeracy skills; to make sure students are achieving within certain standards. NAPLAN, may not identify a student who is underachieving and gifted.

It is estimated that giftedness occurs between 10 and 15 percent of the population (ACARA 2016, Gagné 2008; Figg et al. 2012). The Victorian Education and Training Committee (ETCa) declared this would make an average of at least 'one gifted child per

classroom' (ETC 2012a, p. 6; Grant 2012). This tells us that when considering 5 percent of students have above average skills in the population, a teacher with an average class size of 25 students over 25 years has taught approximately 31 gifted students (being 5 percent of 625). This would equate to an even larger number under ACARA's (2016) and Gagné's (2003) model. Using 10 percent of the student population as a measure, a teacher would have taught 62 gifted students over the 25 years and by using Figg et al.'s (2012) 15 percent would mean a teacher would have taught 94 gifted students over the 25 years. So, why are gifted students quite often overlooked? The fact that teachers seemed to overlook many gifted students, speaks to a 'lack of knowledge about what giftedness is, and the lack of training teachers have in recognising it' (Plunkett 2000, pp. 33-42). Post (2014) also argued that 'teachers possess their own subjective attitudes and opinions about giftedness' (Gifted challenges, para., 7) which created problems with recognition of gifted students. McCoach and Siegel (2007) found there were very differing attitudes amongst the teachers in their study, which ranged from very positive to highly negative. They surveyed 262 teachers and discovered the teachers in their study tended to have neutral or slightly negative attitudes towards acceleration for gifted students and that 'special education teachers tend to have lower attitudes toward the gifted. In particular, they have lower support for gifted education and lower attitudes towards acceleration' (McCoach & Siegel 2007, p. 253).

Spratt's (1994) 5-year study with one rural school and approximately 550 students showed only 1% of their students were in programs for the gifted. This equates to only 5 students. This suggested that their pre-referral process may not have identified all the children who were gifted because usually an average of 10 to 15% of the student population can be gifted (estimated between 55 and 82 students). Even though the screening process happened twice a year, Spratt (1994) found that at times, only a few teachers would nominate students for giftedness while other teachers did not nominate any students. In fact, he found '80% of teachers did not refer children' (Spratt 1994, p. 8). He also indicated the students who were nominated were the ones who usually had good grades and were well behaved, and not necessarily gifted. He found their pre-screening process and screening methods were not very effective as they did not

distinguish between someone who was gifted and someone who was not. Spratt (1994) found that most teachers did not have any clear-cut criteria as to 'how each child was seen as gifted' (p. 7). His study concluded that the strategies were effective when there were changes in the identification of gifted students, that is, the rating scale he used was effective in identifying possible gifted students. It also showed that teachers were more confident in nominating students for gifted programs (Spratt's rating scale is included in the toolkit).

ACARA (2016) has asserted that up to 10 percent of students in a class are gifted and talented, with 2 to 5 percent of gifted students having a learning disability (Figure 2). ACARA (2016) also recognised gifted students do not always achieve, nor is giftedness an assurance of a student's future success. ACARA's (2016) gifted and talented overview (Figure 2), supports changes or adjustments to the curriculum in order to cater for gifted student's needs.

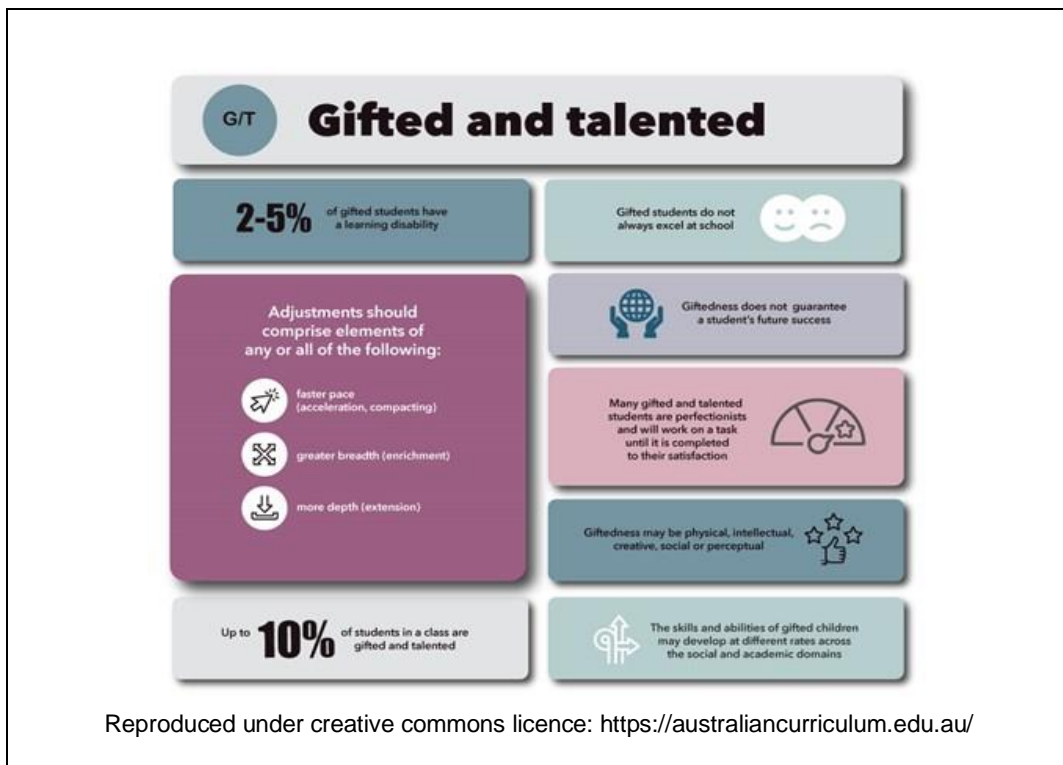


Figure 2: Overview of gifted and talented students (ACARA 2016)

Changes have been included such as faster pace (acceleration and compacting), greater breadth (enrichment) and more depth (extension). ACARA (2016) has recognised that every state and territory should have effective procedures in place to identify gifted and talented students and programs to meet the needs of these students by following the Australian curriculum.

While Figg et al.'s (2012) study, related the term giftedness to approximately 15 percent of the student population, their study only applied to those with an IQ above 130; Gagné's studies (2003; 2008; 2020a) have all indicated 10 percent of children would fall in the range of gifted and talented. Regardless, it has been affirmed that:

On average, there is usually one gifted child in every classroom. The problem is that some teachers may not recognise they have any gifted children among their cohort, while others may be aware of a child's giftedness but resources to provide any special attention to them are not available.

(Grant 2012, The Melbourne newsroom, para. 4).

This would mean in a classroom of 20 students, on average there would be 2 students who would fit into the group classified as gifted (being 10%). These students would require a curriculum more challenging than the regular curriculum.

There is no failsafe method of working out 'how many' children would be considered gifted in any population (Gagné, 2008; 2020b). Australia uses Gagné's (2008) DMGT model which deems individuals who belong in the top 10 percent, deserve to be labelled 'gifted and talented'. The problem with this is that at any given time there may be more or fewer students who would fit into this category because of changes within a population. The prevalence of giftedness is uncertain because there is 'no magical number that separates those labelled gifted or talented from the rest of the population' (Gagné 2020b, p. 4). But whether it is more students or fewer students who are gifted, the education system should meet the needs of all students. Unfortunately, 'the Victorian education system is failing many gifted students' (ETC 2012a, p. xxiii).

2.4: Identification of giftedness

Although signs of giftedness may only be beginning to appear in young children, Grant and Morrissey's (2019) and Morrissey's (2012) concept of giftedness, as well as Gagné's Extended Model of Giftedness and Talent (2013), indicated that signs of giftedness (developmental advancement) can be observable to teachers when these signs are compared to the development of other children the same age. The developmental advancement is observable because of the 'ease and speed in how they advance through successive stages' (Gagné 2013, p. 11). Recognising the development of young children's strengths and abilities, and providing an integrated curriculum are absolutely vital (Coleman 2016). In order for early education services to be able to cater for children of all abilities, there is a need for early childhood teachers to be able to identify giftedness so they can adapt their classroom activities to meet young gifted students' needs to help them reach their full potential (Coleman 2016). Teachers are more likely to identify gifted children if they use a diverse range of identification strategies (Merrick & Targett 2004a; Wellisch & Brown 2012).

The NAGC (2018) indicated that gifted children know approximately 60% of all kindergarten material on the very first day of class. In this case, these children need a differentiated curriculum in order to support their needs. 'Gifted students, like students with disabilities, deserve an education consistent with their needs and abilities' (Davis, Rimm & Siegle 2011, p. 23). It has been described by Rimm, Siegle and Davis (2018) that students who are extended (for example, having early entrance to primary school), may have socialisation issues, maturity problems and be overloaded with classwork; whereas, others believed that these students can develop a positive adjustment in academic and social terms (Gagné & Gagnier 2004).

Early recognition and interventions for young gifted children are crucial in order to prevent boredom and the development of negative attitudes toward school (Pfeiffer & Petscher 2008). These detrimental outcomes can occur when children are not recognised and are not afforded quality education and experiences in their early years (Puckett & Black 2008). Davis, Rimm and Siegle (2011) argued that many gifted

students will underachieve unless they have early entrant admission to schools. The Australian Psychology Society (APS) (2023) and the Australian Psychologists and Counsellors in Schools (APACS) (2018) offer assessments which can accurately identify students who are gifted (APS, Psychologists in schools, para. 2). All government schools have access to psychological services. These psychologists are trained to assess students' abilities in order to identify their strengths and any difficulties they may be having. However, it is the classroom teacher who recommends this service in consultation with parents. By ensuring a student reaches their full potential, they then have the potential to contribute in our society, and in doing so, we are ensuring the next generation has an important part to play. Having interventions such as identification processes and gifted programs are positive steps, but prior to any interventions happening, students' potential talents and abilities must be recognised.

Not only can developmental advancement be observed by parents and teachers, early educators and professionals can also recognise possible giftedness (Silverman & Miller, 2007), with the outcome being better if there is early intervention. Grant (2012), not only indicated that identification should occur in early childhood but for the support teachers need in order to be able to identify and work with these students. She has worked as a pre-school teacher for more than 20 years and states 'It is vital that teachers, even at pre-school and prep level recognise the presence of these children and the need to provide for them educationally' (Grant 2012). Gifted or underachieving children, should be able to be recognised by their teachers and these educators need to have the ability to be able to do this. Sometimes teachers can recognise a student as being gifted and let them either learn at their own pace or they become the teacher's helper. This is usually because teachers are unable to teach these students at their level with many primary schools being unable to offer any plan of how they would educate a gifted child (ETC 2012a). Sometimes teachers incorrectly classify a student as either having a learning disability or being unmotivated to learn. This can happen when teachers fail to recognise giftedness in a student, leaving their ability undiagnosed. ACARA (2016) reviewed the Australian Curriculum to include recognition of giftedness. Using the goals of the Melbourne Declaration (2008) and with submissions from teachers, education

sectors and key education stakeholders, recognition of giftedness can happen particularly in an inclusive classroom. Inclusive classrooms are relevant across Australia and Western nations. The Department of Education and Training of Victoria (DET 2019a) commented 'providing an inclusive school environment is the key to ensuring that all members of every school community are valued and supported to fully participate, learn, develop and succeed' (Inclusive classrooms, para. 2). Research indicated that the needs of gifted students can be met in an inclusive classroom but these strategies are contingent on teachers knowing their students (Cathcart 2006).

Identifying gifted individuals is very much supported in the field of education (Heller & Schofield 2008). In Victoria, the *Aiming High* document recognised 'there is considerable diversity among gifted and talented children and young people...and they live in all parts of Victoria and are from all backgrounds' (DEECD 2014, p. 8). However, this diversity is causing debates amongst researchers regarding the indicators or characteristics of giftedness; the potential reasons for identifying gifted students; the rating scales, tools and methods used in measuring achievement; and the timing for identification. As explained by the DEECD document *Aiming High* (2014) 'assumptions relating to age, gender, disability, and socio-economic, language or cultural background can impede teachers' capacity to identify giftedness' (p. 9).

Questions are increasingly posed about the identification of gifted students as to what, why, how, and when this should occur (Pfeiffer 2008; Schofield 2008). These questions have provoked varying opinions from many experts in gifted education:

'What does it mean to be identified? ...Why or for what purposes is the identification attempted? ...How can gifted and talented students be identified? ...and when ...should gifted children and talented youth be identified? These and other questions must be answered, especially with regard to the second question posed above.'

(Heller & Schofield 2008, p. 93)

Heller and Schofield (2008) declared that the second question 'Why or for what purposes is identification attempted?' is especially important and must be answered to be able to ensure a better outcome for students who are not only gifted and talented, but also for students who are not. Complications with identification must be weighed

against the benefits (Schofield 2008). But failure to identify and adequately challenge these students can pose risks to their educational and social development. For example, it can cause underachievement, fear of failure, anxiety disorders, and so on. Informal identification may be the answer to the dilemma of identification.

When trying to identify giftedness in students, Sternberg, Jarvin and Grigorenko (2011) carried out three different studies: The Rainbow project; the Kaleidoscope project; and the Aurora project. Each of these studies, used alternate methods of assessments. These assessments included standardised tests, intelligence tests, aptitude and interest tests, and achievement tests. Their approach was to investigate the many different aspects of intelligence and how they are interrelated as an alternative to psychometric approaches (e.g., IQ tests). In other words, Sternberg, Jarvin and Grigorenko (2011) investigated other methods that can be used for identification of gifted students. This objective was 'to discover the bases [the best method] for identification, instruction, and evaluation (Sternberg, Jarvin & Grigorenko 2011, p. xiv).

In a study by Karadag and Pfeiffer (2016), five different Gifted Rating Scales (GRS) were used by 30 kindergarten teachers, across 15 preschools on 390 pre-schoolers who were aged between 4.0 years and 6.92 years. The result of Karadag and Pfeiffer's (2016) study indicated that the reliability and validity of all five GRS forms used was high. One of the GRS forms was developed by Pfeiffer and Jarosewich (2003) to determine potentially gifted children in early childhood education. Providing appropriate education for gifted students begins with the identification process. The rationale behind the identification of gifted students is to identify as many students as possible that are gifted and to provide the most appropriate interventions.

According to Porter (2011), in early childhood, teachers and parents are much more accurate in recognising giftedness and talent (or developmental advancement) when they refer to checklists, rating scales or questionnaires. In the view of Merrick and Targett (2004a), identification is used to cater for the needs of gifted students and 'not intended to label children but rather it is an ongoing process, with a diagnostic purpose'

(p. 4). Figure 3 represents Merrick and Targett's ongoing process. Assessments need to happen regularly because 'students' 'gifts' grow and change' (Merrick & Targett 2004a, p. 4).

Merrick and Targett's (2004a) process, as in Figure 3, emphasised the ongoing process of identification and program differentiation. That is, their method of identification which includes nomination, identification, assessment, program differentiation with continued evaluations, is a process where assessments and program changes are identified to cater for every individual's learning needs 'The effectiveness of any approach to identification or provision ... rests in the hands of the teachers who are implementing it' (Riley et al. 2004, p. 279).

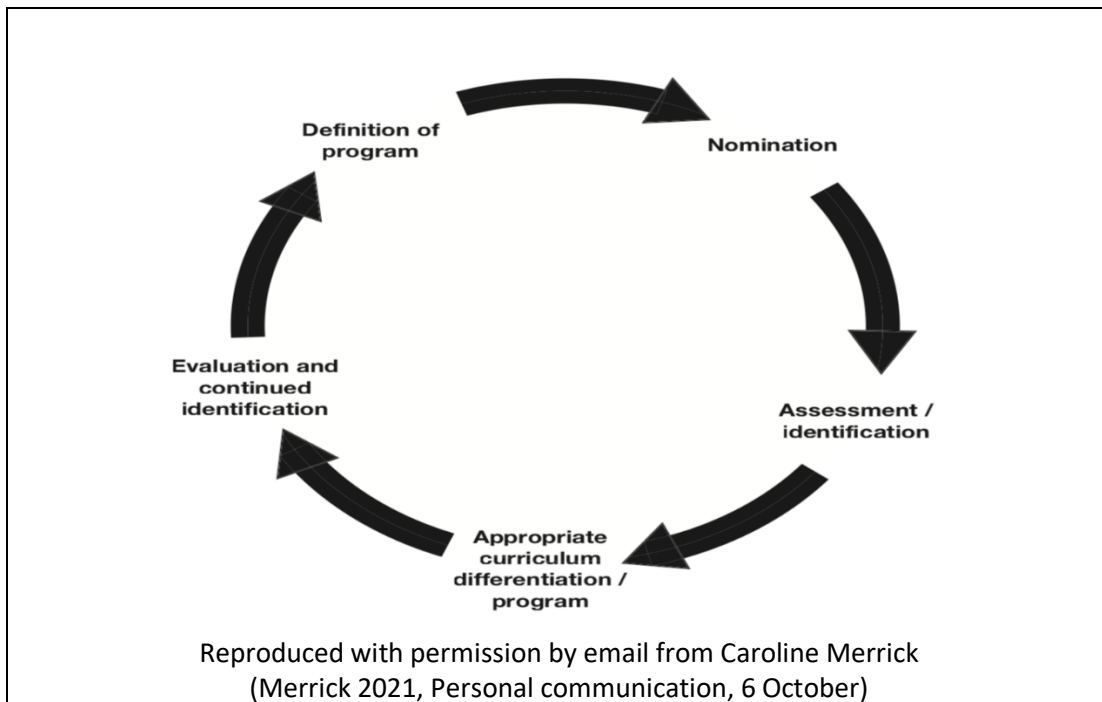


Figure 3: Process of identification (Merrick & Targett 2004a)

As mentioned previously, 'gifts' can be noticed from an early age and in order to promote healthy development continued assessments are required in order to be able to deliver an appropriate curriculum. However, delivering an appropriate curriculum for young children can be hindered when early childhood literature is inadequate in

'meeting the learning needs of this group of children' (Grant & Morrissey 2019, p. 5). Nonetheless, there have been some publications from researchers that are based on early childhood practice (Harrison 2016; Margrain, Murphy & Dean 2015).

Leading researchers in gifted education in NSW, Jung and Slater (2018) recognised that if gifted students are not identified and do not have their needs addressed, they can significantly underachieve, disengage with school, and even quit school. By using appropriate instruments (such as checklists and rating scales), techniques and tests, the information gathered can be used for specific purposes including selection, curriculum and program planning, progress evaluation, and for screening (Johnsen 2004). This type of assessment is used to gather relevant information so that a decision about the student can be made (Colangelo & Davis, 2003).

The Victorian Government (2022) affirmed that recognition of gifted students by teachers and parents are the first stages in the identification process, where early identification is paramount and conducive to their learning needs. School psychologists, provided by the Victorian Government, use formal assessments that 'provide a cognitive of a child's intellectual, academic, behavioural, social and emotional development' (Victorian Government 2022, Formal assessments, para. 4). This created a learning profile that can help 'identify their [students] strengths and difficulties they may have' (Victorian Government, Formal assessments, para. 3). To increase the number of referrals for giftedness, Scott et al. (1992) suggested that teachers make practical and effective use of the parent's abilities of identifying characteristics of giftedness in their children. Van Tassel-Baska (1983) argued that 'Counsellors of the gifted should be attuned to differences in the emotional as well as the intellectual systems of gifted students and work with students based on these differences' (p. 3). Not all Australian schools have school counsellors, especially in primary schools. Identification should not only be the school counsellors' responsibility but also the responsibility of the classroom teacher. Teachers need to be able to identify all the various types of giftedness and then be able to educate these gifted students 'Teachers play a pivotal role in the identification and education of gifted students' (Matheis et al. 2020, p. 214). Yet,

'Teachers' beliefs, biases, attitudes, and expectations influence whether a student is recommended for a gifted program' (El Khoury & Al-Hroub 2018, p. 27).

Freeman (2005) proposed that 'school counselling is never restricted to the counsellor; warm-hearted teachers will continue to be involved with their pupils when they are needed' (p. 245); and this is especially true with primary teachers who usually get some type of educational psychology in their training (Freeman 2005). 'The term counselling implies some form of trained intervention, but then, what else is teaching in its fullest sense?' (Freeman 2005, p. 245). In the implementation of a program to cater for gifted students' needs, teachers need to be able to recognise student's abilities and with parent's consent, recommend them for further evaluation. This would usually involve the school counsellor or a psychologist. Counselling for giftedness would be considered the formal method for identification.

Even though there is no agreed definition of giftedness, one of the accepted ways to determine whether a student is gifted is by observation, noting characteristics and behaviours, and through testing (Bainbridge, 2013). While outstanding ability in music or sport can be observed easily 'identifying intellectual giftedness requires some familiarity with typical characteristics of intellectually gifted children' (DEECD 2014, p. 9). Margrain (2006; 2010) and Harrison (2003; 2016) noted that socio-emotional development issues can be one of the major characteristics and indicators of high-giftedness. In the view of the Australian Institute of Health and Welfare (AIHW) (2012), the socio-emotional behaviours which can be attributed to giftedness include:

being able to relate to others; knowing how to resolve conflicts; making responsible decisions; being able/not able to build relationships; displays self-control; listens and pays attention; expresses feelings with words; awareness of other people's feelings; has a positive self-image and asks for help when needed.

(AIHW 2012)

These behaviours occur mainly because of how a student thinks and feels about themselves and others. This includes being able to adapt and deal with daily challenges (AIHW 2012).

Another body of research (Neihart 1999), has put the argument forward that emotionally, there is no difference between gifted and average learners. This is also the view of Freeman (2010), who believed gifted students are no more emotionally fragile than anyone else. In fact, she believed they may even have greater emotional strength. This viewpoint is certainly in contrast to other researchers' opinion of socio-emotional difficulties being a main, and sometimes more obvious characteristic of giftedness in young children (Baudson 2016; Matheis et al. 2020). The Australian Institute of Health and Welfare (AIHW) (2012), claimed that socio-emotional behaviours occur because of the way 'a person [student] thinks and feels about themselves and others' (p. 8). This includes students being able to adapt to situations and deal with challenges (AIHW 2012). For example, being able to relate to others, being aware of other people's feelings, being able to express feelings with words are all seen as possible aspects of giftedness, though they may not be necessary or sufficient characteristics to identify a gifted student.

2.4.1: Longitudinal development

In education, another way to identify students' current abilities is to use longitudinal development. Comparing the work that students have completed previously to the work they are currently completing is one method of longitudinal development, where the study of student growth (development) happens over time. Identifying the trajectory of student growth involves gathering information about the individual. It can be based on a single subject, where the student's previous work acts as the control. In other words, comparisons can be made between the student's current performance and the student's previous performance (Gast 2010; Nese, Lai & Anderson 2013). Longitudinal development can also be based on inter-individual differences. This can explore the similarity or differences in growth between same-aged students. Inter-individual differences can be used for a specific class or across many similar aged classes. Inter-individual differences in growth examines whether individuals grow differently or not. The Australian Institute of Family Studies (AIFS) research titled, *Growing up in Australia: The longitudinal study of Australian children (2002-2022)*, is an Australian Government initiative. This longitudinal study involved 10,000 children initially between

2003 and 2004 (5,000 children aged 0-1 years and 5,000 children aged 4-5 years). It then followed these children every two years. The major aim of this study was for recognising early intervention and prevention strategies, and to improve support for children and their families. Although this study did not mention giftedness as such, it recognised the need for intervention strategies to respond to the diversity in children's development. Longitudinal development in education allowed teachers to look at developmental changes over time and therefore be able to cater to their students' needs. For example, this data could include 'students' scores on curriculum-based measures and student growth over time, [which] can be used to evaluate the effectiveness of instruction' (Nese, Lai & Anderson 2013, p. 2).

Retaining longitudinal documentation in education according to Nese, Lai and Anderson (2013) and Singer and Willett (2003), allowed teachers to 'explore the difference in change [development] between students, and moreover, to determine the relation between predictors and the shape of each student's trajectory' (Singer & Willett 2003, p. 8). According to the DET (2017a), longitudinal development can assess student's needs, their progress against learning outcomes and their participation in educational programs. DET's document, *High impact teaching strategies: excellence in teaching and learning* (2020), recognised that effective teachers 'assess student's prior knowledge...and set work against prior achievement and individual learning goals' (p. 10). This provided teachers with 'evidence of prior learning and information which teachers need to set goals that offer each student the appropriate level of challenge' (DET 2020, p, 10).

2.4.2: Domains of giftedness

Van Tassel-Baska (2005) defined giftedness as 'the manifestation of general intelligence in a specific domain of human functioning at a level significantly beyond the norm such as to show promise for original contributions to a field of endeavour' (p. 359). In this regard she has emphasised the domain-specific aspects of giftedness, although other researchers believed giftedness can occur in more than one domain. VanTassel-Baska (2005), who has consulted on giftedness for many associations including in

Australia, believed giftedness is 'multidimensional'. In other words, giftedness is complicated, complex, involved, and especially adaptable given that underachieving gifted students may not show their actual ability. VanTassel-Baska (2005) suggested giftedness is affected by both genetic and environmental factors, and a school should take this into account when deciding on the curriculum. Schools also should identify those who would benefit from advanced work, coupled with focused effort.

The NSGT (2018) recognised that gifted students may show giftedness in six different domains: creative thinking, general intellectual thinking, specific academic ability, leadership, psychomotor skills, and visual/performing arts. Although a gifted student will not necessarily show abilities in all domains, sometimes they may show unusual talents in more than one domain. General intellectual thinking and specific academic ability are domains of giftedness that overlap one another. In other words, gifted students may possess characteristics and behaviours from both domains. The general intellectual thinking domain includes students being able to:

Formulate abstractions, process information in complex ways, are observant, are excited about new ideas, they enjoy hypothesising, they learn rapidly, have a large vocabulary, are inquisitive and are self-starters. (NSGT 2018)

The specific academic ability domain includes students who have:

Good memorisation ability, advanced comprehension, acquires basic skill knowledge easily and quickly, are widely read in special interest areas, high academic success in their special interest areas, and pursues special interests with enthusiasm and vigour. (NSGT 2018)

Although no gifted student would be likely to be in all 6 domains, within the domains of specific academic ability and intellectual thinking, students can display one or more elements of giftedness they excel at (NSGT 2018).

According to Gagné (2008) there are 5 gifted domains: physical, intellectual, creative, perceptual, and social/emotional. While giftedness is multi-categorical, and has many domains, this current research refers to the intellectual and academic domains.

Associated with the intellectual and academic domains of giftedness, Table 1 displays various educational characteristics and behaviours. Heacox and Cash (2014) have adapted these educational abilities from a model developed by Gentry and Eastern

Connecticut State University (ECSU). Not only have the educational abilities been adapted from Gentry and ECSU, they also reflect the work of Gagné (2008). Heacox and Cash's (2014) book, *Differentiation for gifted learners: going beyond the basics*, was based on a study that interviewed teachers within the United States, and identified 26 characteristics and behaviours which can be placed within the two domains of giftedness (Table 1).

Table 1: Intellectual and academic domains: characteristics and behaviours of giftedness (Heacox & Cash 2014)

General Intellectual Abilities		Specific Academic Abilities	
1	Comprehends and formulates abstract ideas	16	High academic success in a special interest area
2	Processes information in complex ways	17	Pursues special interest with enthusiasm and vigour
3	Observant	18	Good memorisation ability
4	Excited about new ideas	19	Advanced comprehension
5	Uses a large vocabulary	20	Acquires basic skill knowledge quickly
6	Inquisitive	21	Self-directed and motivated
7	Learns rapidly	22	Widely read in special interest area
8	Self-starter	23	Knows the correct answers
9	Chooses challenging tasks	24	Corrects his or her own mistakes
10	Makes quick and valid generalisations	25	Recognised by peers and other teachers as having high intellectual ability
11	Enjoys difficult problems	26	Self-aware of academic aptitude
12	Reason's things out		
13	Grasp's relationships		
14	Solves difficult and unique problems		
15	Generates sophisticated ideas and solutions		

Porter (2011), suggested there are thirteen domains of giftedness and talent, which together can create extensive behavioural checklists. These domains include: intellectual skills, academic domain, verbal domain, spatial domain, learning styles, sequential style, holistic style, creative learning style, emotional giftedness, social giftedness, and gross and fine motor giftedness. She also recognised that children who are intellectually and academically gifted commonly have early achievement of developmental milestones; are keenly observant of their environment; receive quick and enhancing experiences from adults; deeper and more extensive knowledge than age

peers; show early understanding of abstract concepts; read, write or use numbers in advanced ways, writing words before school even without formal training; show advanced preference for books and movies; and display advanced skills in one or more school objects (Porter 2011). Heacox and Cash (2014) listed these behaviours as either in the intellectual or academic domains, but some of these behaviours overlap one another. For example, Item 25: Recognised by peers and other teachers as having high intellectual ability. This is listed as a specific academic ability but it is also a general intellectual ability.

The Victorian Government's online high-ability toolkit (DET 2021) covers four domains of giftedness: intellectual, physical, creative, and social. Students can display giftedness from more than one of these domains. For example: A person who is an expressive, highly skilled dancer, would have abilities that come from the creative and physical domains. According to DET (2021), students who have a wide range of academic subjects, speed learning and complex thinking processes would have abilities from the intellectual domain (e.g., need to learn, perfectionism); students who have ability in physical education classes or dance would have abilities in the physical domain (e.g., advanced motor skills, high levels of energy); students who find expression in the arts would have abilities in the creative domain (e.g., highly imaginative, skills with drawing and painting); and students who have abilities in a variety of subjects and often in leadership would have abilities from the social domain (e.g., likes working with others, advanced reasoning and judgements) (DET 2021).

2.4.3: *More characteristics and behaviours of giftedness*

There are many differing views on what constitutes a gifted student. Some researchers have noted similar characteristics and behaviours, while other researchers have noted very different ones. In early childhood, Morrissey (2012) believed there are subtle signs to look for in gifted children:

- Rapid learning
- Strong memory
- Ability to concentrate for long periods (when interested)
- Advanced language skills such as early comprehension or a wide vocabulary
- Ability to think at an abstract level

Ability to think logically
Curiosity and intellectual motivation
Intense and wide-ranging interests
Imagination and creativity
Advanced play skills and interests
Attraction to intellectual challenge and novelty
Advanced sense of humour
Seeking out adults to provide stimulation

(p. 17).

These characteristics do not have to be all there to indicate giftedness. But these signs will reflect the 'young gifted child's advanced capacities in thinking and potential for learning' (Morrissey 2012, p. 17). Morrissey (2012) has also identified other characteristics which can have negative consequences associated with giftedness. These characteristics include: low threshold for boredom; perfectionism; intensity and sensitivity; and feeling different (Morrissey 2012).

Apart from Morrissey's (2012) signs of giftedness in early childhood, Feldhusen (2005) suggested individuals can show eight signs of giftedness early in childhood. He produced a list of behaviours and characteristics:

Early mastery of knowledge or techniques in a field or art form.
Signs of high-level intelligence, reasoning ability, or memory in early childhood.
High-energy level, drive, commitment or devotion to study or work as a young person.
Intense independence, preference for working alone, individualism.
A sense (self-concept) of creative power and an internal locus of control.
Stimulated by association with other gifted youth or adults.
Heightened reactions to detail, patterns, and/or other phenomena in the physical world.
Profit from access to accelerated artistic or intellectual experiences.

(p. 115)

Feldhusen (2005) and Morrissey's (2012) signs of giftedness are very similar, yet they do contain differing characteristics and behaviours. The distinguishing features of the gifted child are not exclusive but they exhibit intellectual characteristics and personality traits to a larger degree. Silverman (1993; 2010) has recorded intellectual characteristics and personality traits that are useful in the identification of the gifted child. The intellectual characteristics include:

Exceptional reasoning ability, intellectual curiosity, rapid learning rate, facility for abstraction, complex thought processes, vivid imagination, early moral concern, passion

for learning, powers of concentration, analytical thinking, divergent thinking/creativity, keen sense of justice and capacity for reflection.

(Silverman 1993, p. 53)

The personality traits Silverman identified include:

Perfectionism, need for mental stimulation, need to understand, insightful, need for precision/logic, excellent sense of humour, sensitivity/empathy, intensity, perseverance, acute self-awareness, nonconformity, questioning rules/authority and tendency to introversion.

(Silverman 1993, p. 53)

To obtain the best possible outcome for children with unusually advanced or delayed development, these children need comprehensive diagnosis and early intervention. Silverman (1993) also claimed that these traits (intellectual and associated personality traits) of the gifted child become apparent from an early age. 'The uniqueness of the gifted renders them particularly vulnerable and requires modifications in parenting, teaching and counselling in order to develop optimally' (Silverman 1993, p. 3). Davis, Rimm and Siegle (2011) believed gifted students should have counselling and propose 'the greater the gift, the greater the counselling needed' (p. 393). This is certainly the case with gifted students who are twice-exceptional, that is, students who are gifted and have a learning or physical disability (see Section 2.5.4 for more information on twice-exceptionality also referred to as 2E). However, counselling for gifted students can only occur once a child has been recognised, and this can only happen with teachers working with parents in order to identify any possible gifts.

Other researchers suggested gifted children are easily distinguishable from other children. Winner and Károlyi (2005) suggested this can be observed in four ways:

1. They grasp knowledge quicker and at a deeper level, and are more precocious;
2. They are more driven (Winner & Károlyi describes this as 'rage to master');
3. They do things earlier, better and faster;
4. and they feel different to other children.

(Winner and Károlyi 2005)

But underachieving gifted students are not that easily distinguishable. Although, Gagné (2003; 2008) identified five gifted domains, he proposed there are two sets of components to giftedness: the first set involves the catalysts that either promote or inhibit the development; and the second set involves the talent-development process.

Nonetheless, they are greatly affected by external factors such as ‘who your parents are, where you grow up, when you grow up, and what opportunities you are provided with’ (Sternberg, Jarvin & Grigorenko 2011, p. 32).

In Australia, an inquiry into gifted education reported that few teachers have had training to be able to identify gifted students (Collins 2001). Jung and Slater (2018) found that in NSW there were only three universities that had gifted education as a compulsory part of the training to become a teacher. Their study also found that most of the teachers in NSW are not able to recognise or identify gifted children (Jung & Slater 2018). This is still the case, even though NSW policies state it is the responsibility of the classroom teacher to identify and address the needs of gifted students (Walsh & Jolly 2018). Walsh and Jolly (2018) contended that despite numerous inquiries into Australian gifted education ‘there is no consistent approach to the education of gifted students in Australia’ (p. 86).

2.5: Recognition of giftedness

Recognition of giftedness usually happens at school. Australian teachers are meant to identify gifted students. Although teachers can usually notice students who learn faster and in a more advanced way than their peers, these students are usually left to their own devices. In many instances these students end up being the teacher’s helper or they learn at their own pace (ETC 2012a). Initial identification of a gifted student relies on the parent, the school, and the student. The Department of Education and Training (NSW) recognised there are three stages to the identification process for giftedness: nomination, screening, and monitoring (DET NSW 2004, p. 10).

2.5.1: *Nomination*

Nomination of student’s giftedness is often carried out by teachers, who need to use varied assessments such as rating scales, questionnaires, parent and teacher nomination forms, and peer and self-nomination forms. These subjective resources are predominantly assessments of aptitude, interest, and achievement assessments. Sternberg, Jarvin and Grigorenko’s (2011) study included standardised tests such as

reading tests, math tests, general ability tests and achievement tests; Intelligence tests included IQ scores and deviation IQ scores; aptitude and interest tests, designed to measure verbal reasoning, abstract reasoning, space relations, numerical ability, language and spelling and language usage; and achievement tests measuring accomplishments in areas including reading comprehension, mathematics, social studies, and science (Sternberg, Jarvin & Grigorenko 2011). Even though their study was considered in the early stages of development in 2011, their methods have shown there is an argument for the use of broader assessments such as achievement assessments. These broader assessments can 'improve prediction and increase diversity and at the very least supplement conventional measures' (Sternberg, Jarvin & Grigorenko 2011, p. 212).

Nomination should include information provided by parents, teachers, school counsellors, community members, the students themselves and even peers. Merrick and Targett (2004a) confirmed subjective measures like 'parent, teacher, peer and self-nomination forms, along with previous teacher records' (p. 7), can be used to recognise students as gifted and identify students for gifted education programs. But how well can children detect giftedness in their peers? Recognition of giftedness by peers was researched by Gagné, Begin and Talbot (1993), and they found that 'underachieving gifted students were not easily identified by peers' (Spratt 1994, p. 20) but high intellectual ability is recognised by peers. Parents should be able to tell their child's teacher if they believe their child has any gifts or talents without the possibility of having any stigma or implications attached. Meeting with the teacher and discussing the options can be very worthwhile. Without the parent's input, a student's abilities can be overlooked, but even with the parent's input, their child's abilities may be embellished or dismissed. In either case, teachers need to be aware of the parent's thoughts and stance.

Nomination should include the use of checklists, rating scales, questionnaires, or any other suitable tool. These subjective measures also need to account for students who come from a diverse range of educational, cultural and language backgrounds. They

need to be reliable, valid, and linguistically and culturally diverse. In other words, subjective measures need to be 'transferable across cultures' (Freeman 2020, p. 1). 'Nomination forms would be used to elicit knowledge that the teacher did not expect of the student' (DET NSW 2004, pp. 17-19).

2.5.2: Screening

Selection of the most suitable tools is very important for the identification of gifted students (Merrick & Targett 2004a). 'Suitable tests, checklists and other types of tools can be a complex issue' (Merrick & Targett 2004a, p. 5). Berbena and García's (2021) study indicated self-nomination (either in self-nomination or peer-nomination forms) may be a suitable 'instrument to support identification process of diversely gifted and talented students in the screening phase' (p. 509).

Screening also involved conducting tests (including IQ and ability tests), which are used as measures of potential and performance. The APACS (2018) and the APS (2023) offer in school assessments that consist of intelligence and aptitude and tests. Intelligence tests and aptitude tests measure student's potential skills (their strengths or weaknesses), but aptitude tests measure potential on a lesser scale (APS 2023). Another screening tool is achievement tests that measure acquired skills or knowledge (student's progress). The problem with achievement tests is that they assess student performance usually in syllabus outcomes and can misdiagnose underachieving students who may perform poorly. Higher ability students can also be misdiagnosed and left unidentified by diagnostic tests. These types of tests are designed to identify specific areas of difficulty. Monitoring involves teachers asking questions; questions that would be tailored to the student's age and give a clearer insight into traits to be identified (the student's interests, curiosity, advanced knowledge or even sense of justice). Gagné (2008) claimed that teachers can monitor intelligence by observation. By recording the information (observations), teachers can get a clearer picture of a student's performance, interests, strengths, weaknesses, and skills.

2.5.3: Monitoring

Once gifted students are identified, schools need to monitor the student's growth and development in order to ensure they are progressing with their learning. Monitoring allows teachers to assess what they are implementing, that is, checking whether their teaching and learning programs are appropriate. It allows results, processes, and experiences to be documented and then used to make informed decisions about the curriculum and teaching programs. In other words, monitoring involved evaluations. Monitoring is about checking progress against the curriculum. The resulting data would then be used to evaluate the student's progress, or lack of progress, against the curriculum. The achievements, needs and progress of gifted students should be reviewed on a regular basis. As Merrick and Targett's (2004a) process of identification (Figure 3) indicated, it should be ongoing with program differentiation, continued identification, and evaluations. The goal of monitoring is to improve current and future outcomes or achievements of gifted students by having a positive impact on their learning.

2.5.4: Gifted students with learning disabilities (Twice-exceptionality or 2E)

The VAGTC (2022) is committed to raising the 'awareness and knowledge of the needs of gifted students diagnosed as twice exceptional' (para. 10). Observations made of a student should include both positive and negative characteristics to develop the profile (negative characteristics may include being disruptive in class, an untidy workbook, acting as the class clown). 'Gifted students can show behaviours that may be mistaken for immaturity, learning or behavioural disabilities' (Gallagher, Smith & Merrotsy 2011, p. 21). While identification can be complex, the main reason for identifying a gifted student, is to be able to deliver an appropriate learning environment to suit their needs (Renzulli 2004).

Students who are twice-exceptional may have their abilities hidden and this can cause identification problems when they are also gifted. Students' gifts and disabilities may mask each other. Identification of students who are twice-exceptional should happen in consultation with those who are knowledgeable specifically about twice exceptionality

and with experts in the field of giftedness (Siegle et al. 2016). Psychologists, educators, and researchers have become progressively interested in students who have both learning disabilities and intellectual gifts. McCoach et al. (2001), defined intellectually gifted students as ‘those who demonstrate outstanding ability to grapple with complexity, or superior academic potential’ (p. 404). They defined being gifted and having a learning disability as occurring when ‘the level of performance in a particular academic area is substantially below what would be expected based on [the person’s] general intellectual ability and that this incongruity cannot be explained by lack of educational opportunity in that academic area’ (McCoach et al. 2001, p. 404).

Gifted students with learning disabilities (GLD) have incapacities which are associated with their learning disabilities (Rimm, Siegle & Davis 2018). Many researchers also use the same term for twice-exceptional students (e.g., King 2005, Silverman 1998, Winebrenner 2003). In contrast, other researchers believed that to be labelled as twice-exceptional, children must demonstrate both giftedness and have social, emotional, or behavioural disabilities and not just learning disabilities (e.g., Benge & Montgomery 1996; Morrison & Omdal 2000). Yet, others will argue in a more generalised way explaining that twice exceptionality applies to children who have both gifts and disabilities in any area including physical disability (e.g., Bourne 2004; King 2005). As well as the term twice-exceptional, the VAGTC (2022) uses the term ‘high potential with learning challenges’ (para. 11). It seems by these definitions, there is still uncertainty, and much debate surrounds the issue of who the twice-exceptional are. Inconsistencies with a researcher’s definition can result in incorrect identification or even questioning a diagnosis of a student. Defining giftedness and underachievement in gifted students should be relatively straightforward (Reis & McCoach, 2000). However, determining who they are is far more challenging for teachers.

2.5.5: *Misdiagnosis and giftedness*

There have also been misdiagnosis surrounding giftedness and ADHD because ‘ADHD characteristics relate very closely to both gifted and creatively gifted characteristics’ (Edwards 2009, p. 29). These ADHD characteristics can include poor attention span,

being impulsive and hyperactivity. There are others who agree with Edwards (e.g., Hartnett, Nelson & Rinn 2004; Lawler 2000). Another researcher, Neihart (2003), believed the characteristics of the gifted and those with ADHD are so similar they could lead to a student's giftedness being masked. It is so important that accurate identification occurs for every gifted student because the consequences of misdiagnosis means that these students do not get the right education for their particular needs, resulting in their academic potential not being reached. Once a child has been wrongly labelled it is unlikely the child will ever be seen as gifted (Edwards 2009). This concept has also been supported by researchers including: Davis, Rimm and Siegle (2011), and Reis and McCoach (2002), who concur that negatively labelled children do not get referred to gifted programs because 'educators focus on children's negative behaviours' (Edwards 2009, p. 34). These researchers and others are in agreement that some behaviours that are associated with giftedness may mimic medical or mental health disorders (Webb et al. 2007). An outcome of an Australian study, Wormald and Bannister-Tyrrell (2020), indicated that 'many teachers were unaware of the term twice-exceptional students' (p. 1); and found that across Australia teachers have 'limited understanding of students who are twice-exceptional' (p. 1). They believed there should be greater teacher knowledge and understanding of students who are gifted and have a disability.

Although typical gifted behaviours can resemble behavioural disorders, clinicians and teachers need to be aware of the possibility of a child possessing advanced aptitudes, which can make identification challenging. There can be confusion between students with autism spectrum disorder and students who are gifted. Most children on the autism spectrum have symptoms of ADHD, so identifying giftedness can be problematic. There are many symptoms and signs of autism which are like the gifted, especially to those who are considered profoundly gifted. According to Lovering (2021) both autism and giftedness share many traits or behaviours. An example of this is in Table 2, where a student may have difficulty relating to their classmates (trait) because they have unusual interests (gifted trait) or possibly because they belong on the autism spectrum (clinical trait). Other behaviours can include:

Idealism, perseverance, high learning drive, sensory differences, vivid imagination, difficulty sitting still, challenge with emotional regulation, niche areas of expertise, logical and precise thinking and divergent thinking

(Lovering 2021, Are autistic kids always smart?, para. 15).

As mentioned previously, according to Margrain (2017) intense behaviours of gifted students can be mistaken for anti-social behaviours. While this can be confusing, it is important for any student to have a correct diagnosis from a professional or psychologist. As specified by Lovering (2021), in the United States 30% of autistic people have intelligence that ranges from average to gifted (Are autistic kids always smart? para. 14).

Supporting Emotional Needs of the Gifted (SENG) is an organisation devoted to decreasing medical misdiagnosis in gifted children. It has also indicated that early recognition and interventions are crucial in order to promote healthy growth and development in gifted children. Table 2 shows how clinical traits can be explained as possible gifted behaviours, rather behaviours pertaining to a medical diagnosis. For example, students who possess characteristics or behaviours (clinical traits) such as 'fails to complete tasks' 'refuses to do schoolwork' or 'distractible', could be diagnosed as having a learning disability or ADHD. In fact, these clinical traits can also be explained by giftedness in students, which are characterised as: 'Daydreams – easily distracted' or 'Needs to be intellectually challenged – fails to complete tasks or refuses to do homework'.

Dabrowski's (1902-1980) work on overexcitabilities has provided a framework to understand the characteristics of giftedness. He argued that overexcitabilities are found to a greater degree in gifted individuals. Lind (2011) also commented that 'intensity, sensitivity and overexcitability are primary characteristics of the highly gifted' (Lind 2011, Overexcitability and the gifted, para. 1). Dabrowski's overexcitabilities are included in SEN's Table 2 as a possible explanation for a gifted student's behaviour because 'One who manifests several forms of overexcitability, sees reality in a different, stronger and more multisided manner' (Dabrowski 1972, p. 7) which can construe identification.

Table 2: SENG – The challenge for clinicians with identifying giftedness

Clinical Trait	Possible gifted explanation	Possible medical misdiagnosis
High activity level	Passionate learner, kinaesthetic learner	ADHD
Low impulse control, impatient, interrupts others	Asynchrony, judgement lags intelligence (delay of prefrontal cortex)	ADHD
Worries frequently	Idealistic, grapples with moral, ethical, philosophical issues, spiritual issues	Anxiety disorder, depression
Extra-sensitive to loud noise, clothing tags, fluorescent lights	Dabrowski's overexcitabilities	Sensory-motor integration disorder, auditory-processing disorder
Difficulty relating to classmates, atypical humour	Asynchrony, unusual interests, and passions	Autism spectrum
Distractible, fails to complete tasks, refuses to do schoolwork	Daydreams, active imagination, needs to be intellectually challenged	ADHD, learning disability, auditory-processing disorder, conduct disorder
Stubborn, averse to transitions	Independent, high expectations, deep interests, drive to learn	Obsessive-compulsive personality disorder, autism spectrum
Highly emotional, moody, argumentative	High sensitivity, intensity, asynchrony, needs increased challenge	Mood disorder, conduct disorder
Fine motor coordination delays, poor handwriting	Asynchrony, mind quicker than the hand	Dysgraphia, dyslexia, learning disability
Atypical sleep pattern	Low need to sleep, will not stop learning to sleep, nightmares, vivid dreams	Sleep disorder, ADHD, mood disorder
Atypical eating pattern	Too busy learning to eat, averse to food textures	Food allergies, eating disorder, mood disorder
Speech delays	Asynchrony	Autism spectrum

These overexcitabilities may indicate possible giftedness but the behaviours can also be attributed to clinical traits. These clinical traits, such as, being extra sensitive to loud noises, clothing tags and lights, can also be attributed to sensory-motor integration disorder or auditory-processing disorder (Table 2). Along with Dabrowski's overexcitabilities, Bainbridge (2019), and Heacox and Cash (2014) identified five areas in which gifted children exhibit these intense behaviours: psychomotor, sensual, emotional, imaginal, and intellectual.

Psychomotor dominant behaviours can include rapid speech, being impulsive, compulsive talking and organising, competitiveness, sleeplessness, excessive energy, restlessness. Excitabilities include: sensual overexcitabilities giving rise to a heightened awareness of all five senses – seeing, smelling, tasting, touching and hearing; intellectual overexcitabilities that are characterised by activities of the mind (e.g., deep curiosity, love of knowledge and learning, avid reading, ask probing questions); imaginal overexcitabilities that are displayed as powerful imaginations (e.g., vivid dreams, magical thinking, good sense of humour, day dreaming); and emotional overexcitabilities where children display exceptional emotional sensitivities with both positive and negative feelings (e.g., anxiety, extreme emotions, concern for others, loneliness, depression) (Bainbridge 2019). Other researchers, like Webb and Latimer (2003), found there is little research about the similarities and differences between children with ADHD and giftedness. Gifted children can exhibit multiple intense behaviours, but according to Bainbridge (2019) only one is usually dominant.

Although giftedness can be masked by many characteristics and behaviours of children who have learning disabilities, typically these children are usually only recognised for their disability and not for their gifts. These masked characteristics and behaviours can include: problematic behaviour (including refusal to try something new, stubbornness, uncooperativeness, non-participation in class activities, cynicism, sloppiness and disorganisation, a tendency to question authority, emotional frustration, absentmindedness, and low interest in detail); introversion (quiet and shy students); uneven development; learning difficulties (a student who has learning difficulties and who is intellectually gifted can have their conditions masked); physical or sensory disability; hiding ability (to avoid failure); and family characteristics (such as siblings with learning disabilities) (Davis & Rimm 2004; Davis, Rimm & Siegle 2011; Hodge 2013; Rimm, Siegle & Davis 2018). Referring to Table 2 for example, a student's failure to complete schoolwork can be attributed to the daydreaming behaviours of a gifted student but also to a student who has a learning disability.

According to Brody and Mills (1997), there are at least three subgroups of children who are not recognised because of their twice exceptionalities (Baum 1994; Brody & Mills 1997): the first group are students who are gifted but have difficulties in school (these students would be considered underachievers); the second group are students with learning disabilities whose exceptional abilities have never been identified (it has been estimated as many as a third of these students have superior intellectual abilities [Baum 1994]); and the third group are students who have abilities and disabilities that mask one another (these students typically function at their age level but well below their potential) (Brody & Mills 1997; Lovering 2021).

Many of these masked behaviours and characteristics are definitely not seen as positive and can often be exhibited by gifted students, including underachieving gifted students. Even though these characteristics and behaviours may not be seen in all gifted children, teachers need to be aware of them to be able to establish if a child may be gifted. All of these varying characteristics and masking behaviours have been compiled from various research studies (Hodge, 2013). It appears to be not well known that children can be both gifted and have disabilities (Silverman 1993). In the view of Davis and Rimm (2004),

Gifted children differ from each other not only in size, shape, and colour, but in cognitive and language abilities, interests, learning styles, motivation and energy levels, personalities, mental health and self-concepts, habits and behaviours, back ground and experience, patterns of educational needs, and any other mental, physical, or experiential characteristic.

(p. 25).

Researchers such as, Neihart et al. (2002) have recognised many risks associated with gifted children: 'frustration, irritability, anxiety, tedium and social isolation' (p. 11); 'intense social isolation and stress among those with IQ greater than 160' (p. 14); 'difficulty making friends due to advanced concept of friendship, mostly among those less than age 10' (p. 23); 'de-motivation, low self-esteem and social rejection among the exceptionally gifted' (p. 26); 'emotional awareness beyond their ability to control' (p. 34); 'difficulty with peer relations proportional to their IQ' (p. 35); 'loneliness, anxieties, phobias, interpersonal problems, fear of failure and risk avoidance due to perfectionism' (p. 43); 'underachievement for social acceptance' (p. 64); 'lack of resilience reinforced

by easy work and well-intentional but misguided praise' (p. 65); 'increasing perfectionism throughout school years among girls' (p. 75); and 'depression among creatively gifted' (p. 93). Silverman (1987) noted additional risks associated with gifted students: 'refusal to do routine assignments, inappropriate criticism of others, lack of awareness of impact on others, difficulty accepting criticism, hiding talents to fit in with peers, nonconformity and resistance to authority, and poor study habits' (pp. 40-44). 'Research shows that when children detect that exceptional ability makes them seem different from their peers, many will mask that ability in order to gain peer acceptance' (DEECD 2014, p. 12). An Australian study by Gross (2004) found that the reading performance of more than 40 of the 60 children involved in the study, significantly decreased on starting school. All 60 children could read before they started school, but discovered within two weeks of starting school, 40 children either stopped reading in class or reduced their reading performance. Their study also found, the children who did continue to read had teachers who acknowledged and facilitated their skill (Gross 2004; Gross et al. 2005).

2.5.6: Gifted students who underachieve

Gifted students who are underachieving are at risk of having inappropriate educational provisions (Edwards 2009). When gifted children are not identified, they can become bored, lazy, unmotivated, and perhaps incorrectly labelled as having a disability such as Attention-Deficit-Hyperactivity-Disorder (ADHD) (Flint, 2001) or some other learning disability. If they stop completing work and are disruptive, it is unlikely they will be recognised as gifted (Hartnett, Nelson & Rinn 2004). Gifted children sometimes construct psychological defences masking their abilities, resulting in their academic and intellectual abilities being hidden (Edwards 2009). This implied a gifted student could stop trying to learn even though they may be presented with an interesting curriculum. Emerick's (1992) study showed when students are appropriately challenged with educational opportunities based on students' strengths and interests 'gifted underachievers can respond positively' (p. 145). However, Reis and McCoach (2002) found there is evidence that the effectiveness of most interventions developed to reverse underachievement in gifted students 'has been inconsistent and inconclusive'

(p.122). But in saying that, Reis and McCoach (2002) also believed that when teachers differentiate the curriculum 'underachievers will more effectively combat the problem of underachievement in school and society' (p. 124). Gifted students can also have different beliefs about their own capability that can have 'an impact on motivation, the types of goals that they set for themselves, and thus their achievement' (Carlson 2018, p. 5-6). These types of defences occur for various reasons, which includes the pressure to succeed, so proper identification could be the solution.

When gifted children have lost the motivation to learn, they may not achieve well in school, but they usually tend to score high on achievement tests. Children with gifted potential need additional support as early as possible to enhance motivation to learn and to avoid underachievement (Allan 2002). Motivation for many gifted children must come from within (Bainbridge 2011). According to Bainbridge (2019) these children become motivated by challenge and interest; gifted students usually love to learn, have good recall, and have the ability to learn quickly and easily; whereas underachieving gifted students tend not to be motivated to learn (McCoach & Siegle 2001).

Research has shown (Allan 2002; Bainbridge 2011, 2019), when these children are appropriately challenged, they become interested in their work and they can and will achieve. However, when a child is not achieving in school, they can still be learning and achieving on their own outside of school. Clark (2012) also mentioned other factors which can affect this outcome including the need for the child's environment to be appropriate. However, whether or not they excel in school, the potential to achieve is there. Also, children who are gifted and come from low-income or minority families, who are not identified at an early age, are less likely to be recognised later (Moon & Brighton 2008). Scott et al. (1992) suggested that minority children are underrepresented in gifted programs because their parents are not as active in requesting evaluations for their children for gifted programs. So, it is important for teachers to be aware of characteristics and indicators of young gifted children, so that they receive the interventions and educational opportunities afforded to their abilities. Hodge and Kemp (2000) noticed that young gifted children do not display as many characteristics as do

older children; so, it is important for teachers to have and to use, the right resources that are suitable for young children.

2.6: What is underachievement?

Defining achievement has always caused much dispute amongst researchers (Morisano & Shore 2010). 'Children are not born underachievers. Underachievement is learned, therefore it can be unlearned' (Davis & Rimm 2004, p. 317). Davis and Rimm (2004) and Gagné (2008) argued that gifts should refer to the student's abilities, and talents to performances they achieve. This implied that underachievers do not have gifts and do not perform. Underachievement in education is a real and persistent issue. Importantly, many gifted children, even though they 'may or may not be high achievers, they do have outstanding potential but are disengaged and underachieving' (DEECD 2014, p. 8). Although it seems to be a widespread phenomenon 'research suggests that much of it appears to go undetected' (Montgomery 2009, p. 3). A universal definition of underachievement would be beneficial, but it is complicated and certainly not straightforward. In fact, it is interesting that the same statement about the lack of a universal definition for giftedness, could just as easily be applied to the phenomenon of underachievement in gifted students. It seems that underachievement has been a source of much controversy with many researchers in conflict about whether underachievement even exists or if it is a legitimate academic category.

2.7: Defining underachievement

Looking at the term underachievement, one might think it would be an easy concept to explore. After all, the definition suggests that a student is functioning less well than they could. So, why is underachievement of gifted students a contentious issue? and 'what is the meaning of less well and could?' (Kornrich cited in Butler-Por 1993, p. 650). Kornrich (1965) posed the same questions many years before, in relation to when underachievement actually starts and ends. Despite decades of further research on underachievement in students, those questions still have not been answered. Hence, defining underachievement is not as easy as it seems with so many varying

perspectives of underachievement and with having to decide where underachievement begins and where it ends.

The disparity between expected and actual performance occurs for many reasons but 'to be classified as an underachiever, the discrepancy between expected and actual achievement must not be the direct result of a diagnosed learning disability' (Reis & McCoach 2000, p. 157). In other words, students with learning disabilities are not underachieving and are performing at their expected levels. But as Nag and Snowling (2012) put it, 'not all students who present with poor school attainments will have learning difficulties' (p. 40). Although some students deliberately do not achieve to their potential, including underachieving gifted students, Siegle and McCoach (2013) surmised gifted students who are failing to achieve 'should be of greatest concern to educators and parents' (p. 379).

The major difference between achievers and underachievers is in motivation and self-regulation (i.e., students are disengaged or make careless, minor attempts at work), and in goal valuation (i.e., they must value the work or the outcome) (Heacox & Cash 2014). As explained by Reis and McCoach (2000), underachievement is defined as a discrepancy between potential (or ability) and performance (or achievement). In other words, underachievement means to perform worse or have less success than what would be expected (i.e., students who go unnoticed will not be able to reach their full potential). Given this definition 'underachievers can be very hard to identify and for teachers to notice when underachievement is taking place' (OBU 2006, p. 1). Underachievement can also be defined as a discrepancy between the child's school performance and some index of his or her actual ability, such as intelligence, achievement or creativity scores, or observational data (Davis & Rimm 2004; Lyons 2014). The key difference is the discrepancy between actual and potential performance. In a variation to this definition, according to Karaduman (2013), underachievement is seen as a discrepancy between actual achievement and intelligence.

While engagement is viewed in terms of motivated behaviour, disengaged students are underachieving and not working to their potential. In Victoria, the DEECD (2010) promulgated a document declaring:

We will provide an education system in which all children and young people will receive the support they need to enable their engagement in school ... Students at risk of disengaging or already disengaged will remain a priority for the Victorian Government. (DEECD 2010, p. 6).

It is often difficult for teachers to recognise underachievement as some students tend to do the assigned work with only a minimum amount of input. Many students have motivational or emotional problems and negative attitudes towards school which make their potential easily missed. Nevertheless, 'there is no evidence that gifted children or youth – as a group – are inherently any more vulnerable or flawed in adjustment than any other group' (Neihart et al. 2002, p. 268). Understanding individual students and being able to identify underachievement patterns is essential to making any changes. Academic underachievement is so widespread that there needs to be restructuring and reform of educational practices for students to succeed (Heacox 1991, p. 2). Even though this reference is outdated, it is still applicable today and is supported by other researchers (Reis & McCoach 2000; Wormald & Vialle 2011). Historical and more recent research has indicated that underachievement is still a controversial issue and teachers are still finding it difficult to recognise individual students who are underachieving. It has also been noted, that underachieving gifted students are underrepresented in gifted programs, especially disadvantaged gifted students, and this is an 'unresolved issue for school systems and the field of gifted education around the world' (Jung et al. 2022, p. 149).

2.8: Identification of underachievement

Underachievers are individuals who come from vastly differing backgrounds. They exhibit diversity in their behaviours, interests, and abilities. A common explanation in the literature is that underachievement in various areas are sets of behaviours that can be changed. Gallagher (2005, p. 31) believed that 'underachievement is a behaviour and therefore can be modified'. It is possible to alter the behaviours of students and change their achievement patterns because underachievement can be situation or content-

specific (Clark 2008). In education, underachievement is regarded as a behaviour, and thus, this behaviour is capable of being changed. It has been argued that 'social behaviours cause underachievement in areas of the school curriculum' (Montgomery 2009, p. 206). Students can be withdrawn from learning opportunities; they can be bored, they do not try hard, they give up easily, they are depressed, they can be anxious. There are other behavioural traits, which Trout (1997) recognised:

They do not tend to read the assigned books, they avoid participating in class discussions, they ask for fewer assignments, they skip opportunities to improve their class performance and grade, they complain about workloads, they resent the intrusion of school work on their time (homework), they do not like "tough" teachers, they do not adequately prepare for class and tests, they are impatient with analysis and they regard intellectual pursuits as boring.

(pp. 47-48).

Underachieving students protect themselves by avoiding effort and achievement. Montgomery (2009) determined that 'social, emotional and behavioural difficulties are the most common and hidden causes of underachievement' (p. 280). These behaviours of underachievement are consistently mentioned in historical and in more recent research (Clark 1997, 2008 & 2012; Montgomery 2009; Trout 1997). Montgomery (2009), also indicated that underachievers will sometimes show signs that will give an indication of higher potential. These signs can include being resourceful to answer hard questions and problems; being able to pose innovative problems; but also, being able to ask awkward, in-depth questions about everything. Montgomery (2009) also included 'being quick to learn new concepts, inventive and original when motivated, persevering only when motivated, streetwise and full of common-sense wisdom, perceptive about people and motives' (Montgomery 2009, p. 28).

There are many reasons why students underachieve. They may not have the ability to transfer mastered skills and knowledge when they are required to do so (Cohen 1990). Individuals who can do this have taken control of their own learning. Failure to exercise control over personal learning is the key factor influencing underachievement (Clark 2008 & 2012; Cohen 1990; Davis & Rimm 2004). Research suggested that students are underachieving at an alarming rate and this will continue to happen if there are no interventions. All students have the ability to learn and achieve but many are at risk of

failing to achieve to their academic potential. Teachers need to be able to identify these students. If teachers are unable to define or explain what underachievement is, then teachers need to have training through professional development or in their pre-teacher training. When underachieving students learn how to cope in changing circumstances and how to transfer skills and knowledge, they will have greater command over their outcomes and achievement (Bainbridge 2011; Cohen 1990).

The Wollongong Youth Study (Vialle, Heaven & Ciarrochi 2007), was an Australian study which involved 950 adolescents from five high schools in New South Wales. Initially the researchers identified 60 of these students as being gifted (this equates to 6.23% of the adolescents, well below the expected percentage of gifted students.). Vialle, Heaven and Ciarrochi (2007) then allocated the 60 students into either achievers or underachievers groups. The underachievers demonstrated behaviours such as 'poor attitudes towards school and were less happy' (Vialle, Heaven & Ciarrochi 2007, p. 575). This study showed that 50% of their gifted students underachieved, which is in line with the Victorian inquiry (ETC 2012a). Further to Vialle, Heaven and Ciarrochi's (2007) study, Figg et al. (2012) categorised gifted students as either achievers, selective consumers, or underachievers. They compared gifted achievement and underachievement to selective consuming students. Selective consuming students are adept at being particular and choosy about their learning in that they take the best from what teachers and school have to offer and ignore the rest. Figg et al. explored the differences between the three groups in thinking style preferences and academic self-perception. Their results supported findings from other research studies showing that 'academic self-perceptions were higher for the selective consumers group' (Figg et al. 2012, p. 67); and the academic self-perceptions scores for the selective consumers, were closer to the achiever's group than to the underachievers group. This comparative study determined there were significant differences in behaviours between the three groups with these behaviours possibly leading to underachievement or achievement. But Figg et al.'s (2012) study indicated that for a child to be considered gifted they must remain in the top 15 percent. What would happen to underachieving gifted students and

their needs? Would they be left out of gifted programs because they do not excel all the time?

2.9: Underachieving gifted students

Until 1869, giftedness had not been recognised or addressed because the term had not been used in either language or literature (Galton 1869). This does not mean there were no gifted children; it just means that children with high ability or potential may have not been noticed or given a label. Since then, giftedness has usually referred to students who are motivated, successful and who were already achieving. This definition did not take into consideration any gifted students who, for whatever reason, failed to show their abilities. It has been estimated that up to 50 percent of gifted students will be identified as underachievers (ETC 2012a; Heacox 1991; Rimm 2008); with statistics indicating that as many as half of all gifted students do not reach levels consistent with their tested abilities (Rimm 2008). With an estimated 85000 gifted students in Victoria (being an estimated 10% of the student population in 2012), there may be 'approximately up to 42,500 students in Victoria alone [who] do not reach their expected level or potential' (ETC 2012a, p. 1). According to Victoria's latest DET's (2022b) statistics, there are now over one million students enrolled in Government, Catholic and Independent schools. This indicates there are approximately 101,400 students who would be considered gifted (Gagné's 10%). Using the Education and Training Committee's (2012a) estimate of up to 50%, this could mean as many as 50,700 gifted students are underachieving. With over 2250 schools across all sectors, there would be approximately 22 students per school, who are gifted and underachieving. Jackson and Jung (2022) suggest 'evidence indicates that up to, or even greater than, half the population of gifted students exhibit significant academic underachievement' (p. 1133). Other researchers have estimated 82% of gifted students underachieve because of being misunderstood (Wellisch & Brown 2012) and Ainley's (1993) Australian study of high ability secondary school students found 37% were disengaged from their schooling at year 7. Byrne (2002) suggested that 40% of high ability students do not perform to their ability. Reis and Renzulli (2004) believed this can be caused by gifted children's disabilities or motivation problems. Wellisch and Brown (2012) also suggested that peer

problems causing the underachievement 'may be improved by teacher recognition of giftedness' (p. 155).

Underachievers can be found amongst any group of children including those who may be gifted. These children may show no signs of being gifted, and in effect they can be called 'invisible gifted children' (Wellisch & Brown 2012, p. 153). Defining an underachieving gifted student should be a relatively straightforward exercise. But just as there is no universally agreed upon definition of a gifted student, there is also no universal definition of an underachieving gifted student. For many different reasons, determining why some high ability students demonstrate low levels of achievement can be very difficult. There is agreement in the research literature that underachievement amongst gifted students is common, and a concern for both parents and teachers (Figg et al. 2012). For more than thirty years, gifted individuals who ultimately failed to achieve, have interested educators and researchers (Montgomery 2009; Reis & McCoach 2000; Rubenstein et al. 2012; Silverman 2010, Silverman & Miller 2007; Tapper 2012; Whitmore 1982 and 1989). Whitmore (1989) identified three categories for the underachievement of gifted children:

- Lack of motivation to apply themselves in school
- Environments that do not nurture their gifts and may even discourage high achievement
- Disabilities or other learning deficits that mask their giftedness.

(pp. 10-12).

All the children within these three categories exhibit a discrepancy between potential and achievement in school. Even though every individual is unique in their own way, underachievers have similar challenges and behaviours. Reis and McCoach's (2000) review of three decades of research, proclaimed that underachievement amongst gifted children has remained a conundrum, not only for educators, but also for psychologists, researchers, and parents. Their research, which included a review on the definition of underachievement in gifted students, found most of the definitions listed in the literature described gifted underachievement as a discrepancy between achievement and ability. They also suggested achievement and ability need to be defined so a judgement about a particular student can be made. Reis and McCoach (2000) and McCoach and Siegle

(2003) proposed that, to be considered an underachieving gifted student, the definition should be:

Underachievers are students who exhibit a severe discrepancy between expected achievement (as measured by standardised achievement test scores or cognitive or intellectual ability assessments) and actual achievement (as measured by class grades and teacher evaluation). Gifted underachievers are underachievers who exhibit superior scores on measures of expected achievement.

(p. 157).

McGee (2013) added to this definition: to account for the discrepancy between expected and actual achievement, there should be no diagnosed learning disabilities that accounts for this discrepancy. Reis and McCoach (2000) and McCoach and Siegle (2003) believed this definition to be practical and operationally defined for future researchers. But what do 'severe' and 'superior' actually mean? When does achievement begin or underachievement end? Clark (2002) advocated there is no way to indicate or measure, what the actual discrepancy is between underachievement and perceived ability. She abandoned the definition of 'not performing up to capability or potential' (Clark 2002, p. 541), as the concept of potential is not measurable. Other researchers, such as Pomerantz and Pomerantz (2002), have agreed with Clark. Pomerantz and Pomerantz' (2002) study of 26 able underachieving teenagers in England, found they had problems around measuring 'human activity such as potential' (p. 3). But even with this problem, they found teachers had a clearer perception of a students' potential using checklists and rating scales with characteristics, behaviours and indicators of underachievement and giftedness. To identify a gifted underachiever, one must first identify the giftedness (ACTET 2014).

There has been a widespread misconception that all gifted students are high achievers. But in fact, many are not. ETC (2012a) found that up to half of all gifted students underachieve. Researchers have struggled to agree upon a clear definition of giftedness and underachievement, especially with reference to those students who are both. Differences in definitions of giftedness, achievement or underachievement have occurred across diverse researches and with researchers. Despite these differences, researchers have agreed on three distinct criteria for defining underachievement in gifted students:

1. A discrepancy between ability and achievement.
2. Must have persisted for at least a year.
3. Not due to a physical, mental, or learning disability

(Post 2016).

These distinct criteria are only a start to the identification process and do not reveal the diversity and complexity of gifted underachievers. Giftedness involves not only skills but also attitudes. While skills are developing, to what extent they are developed and used, depends on attitudes. There is abundant evidence (Sternberg 2011), that 'children's environment, their motivation and their training can profoundly affect their intellectual skills' (p. 79). Motivational factors need to be changed to try and stop underachievement in gifted children. Baslanti's (2008) study which extended the work of Baslanti and McCoach (2006), was conducted with 30 underachievers using semi-structured interviews containing 44 questions. This study aimed to explore the reasons for a student's underachievement and to identify the characteristics of gifted underachievers using the School Attitude Assessment Survey-Revised (SAAS-R). The results indicated that more than 60% of the gifted underachievers had a fear of failure (self-perception) and showed many of the gifted underachievers had low motivation and poor self-regulation to study.

Parker's (1997) study of 820 academically talented sixth graders at the Centre for Talented Youth, John Hopkins University found there were three distinct groups of gifted students: a healthy perfectionist group (41.7%), non-perfectionist group (32.8%), and a dysfunctional group (25.5%). His study, which relied on survey responses, resulted in realising that the dysfunctional group would benefit from having 'mindset changes' (Carlson 2018, p.9). Growth mindset is the belief that intellectual ability is adaptable through effort and hard work (Dwek 2000). Current research has shown that having a growth mindset and using the curriculum to increase learning goals, effort, and resiliency, can have a positive effect on intellectual ability (Donohue, Topping & Hannah 2012; Paunesku et al. 2015). This is because having a 'growth mindset can impact on motivation and achievement of students' (Carlson 2018, p. 9). Although Parker (1997) found three distinct groups of gifted children, while Chan's (2012) study found two different groups (adaptive and maladaptive perfectionists) but agreed with Parker, that

changing mindsets would benefit the maladaptive perfectionists. These studies used different analogies to describe underachievement in gifted students.

Post (2016), and the Department of Education Student Excellence Unit (DESEU) (2023) in an email, confirmed there are four types of gifted underachievers: involuntary underachievers; classic underachievers; selective underperformers; and under-the-radar underachievers (DESEU 2023, personal communication, 12 July). The DESEU (2023) commented that there are eight characteristics that account for these four types of gifted (or high-ability) underachievement. Figure 4 summarises these types, and lists characteristics and strategies to address gifted underachievement:

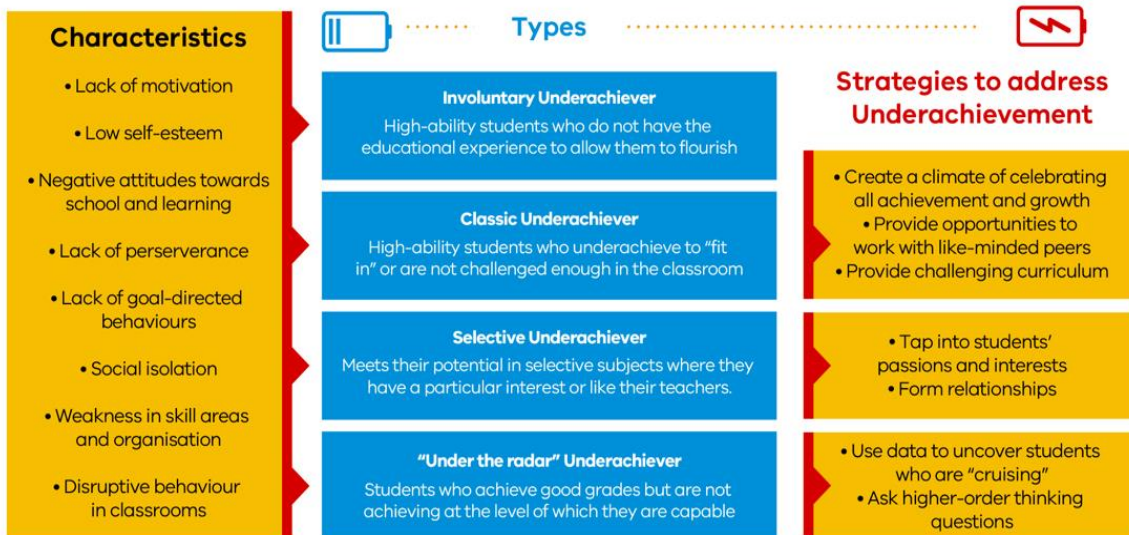


Figure 4: Types of gifted underachievement (DESEU 2023)

Involuntary underachievers are students who want to achieve, but do not because schools are unable to meet their needs. Underachievement in this case, is not caused by personal, family or peer issues but by an absence of available options. Many of these types of students never get identified. The classic underachiever underperforms in most areas of study. These students want to be seen as the same as their peers and are often not challenged in the classroom. They are often withdrawn, rebellious, angry or have no interest, enthusiasm, or concern for their work. They will often use a variety

of reasons for not exerting themselves, and usually resist teachers or parents' efforts at encouragement. The selective underachiever or underperformer will only exert themselves in areas of interest to themselves or classes they like or if they want to please their teachers. Under-the-radar underachievers are students who are overlooked but can achieve good grades. They can usually coast through school, but fail to reach their potential (Post 2016). These students often go unrecognised.

Educational psychologists generally believed that the achievement of an individual has a relationship with a child's ability. In other words, the achievement of a student is the realisation of their ability. Ford and Harris (1992) found that students who were gifted and who had not been identified were 'less hopeful and less positive about ideas and values about education and democracy' (p. 59).

When gifted children are not identified, it can lead to underachievement. It can be very difficult to determine why many gifted students demonstrate low levels of achievement because underachievement can occur for many different reasons as previously mentioned. However, in order to help these students, teachers must explore the causes of students' underachievement. As reported by the Department of Education and Training (DET 2018b), in the majority of cases, the underachievement of gifted students can be caused by one or more of the following reasons:

A disconnect between home attitudes to learning and those of the educational setting; poor self-belief by the student in their capabilities. This can include fear of failure, fear of not being able to live up to an expected reputation of always being successful in whatever they do; extended disengagement from school, potentially leading to poor academic skills and chronic underachievement; twice-exceptional students who may suffer from physical or cognitive disabilities that impair their academic performance; being 'paralysed' by perfectionism, needing to always give a perfect performance; boredom, from a mismatch between the student's current level of learning and the opportunities to learn new content in class; forced-choice dilemma, where a student believes that they need to make the choice between peer group acceptance and academic achievement; Being from culturally diverse families or those in a rural context. Gifted children may not always be identified potentially leading to underachievement.

(DET 2018b)

These children can experience low self-esteem, anxiety, a sense of isolation or even depression, when their ability is not identified. There are many challenges that gifted student's face when their ability is not identified. These include either working at lower

levels to feel like they are 'fitting in' or the dilemma of working at their advanced level and being alone. These children do this in order to blend in with their peers and be part of the social group. When this occurs, teachers and parents need to work together in order to provide support and guidance and encourage a sense of belonging and development of their child's potential (DET 2018b). Kanevsky and Keighley (2003) observed that 'Underachievement by gifted children has been cited as the only honourable way to cope in an uninspiring classroom' (p. 27). Gifted children will usually watch and work out their classroom environment so that they do not draw attention to themselves. They will use their ability or intellect, to make sure they do fit in. 'They do not want to be seen as different' (Kanevsky & Keighley 2003, p. 28). They also believed underachievement can be caused by an unchallenging curriculum (Kanevsky & Keighley 2003).

The Victorian Government found 'there is an urgent need for research into why underachievement by gifted students is not well understood' (ETC 2012a, p. 37). Hoover-Schultz' (2005) program coordinators of gifted and talented students concluded 'the processes of defining underachievement, identifying gifted underachieving students, explaining underachievement, and suggesting appropriate interventions are puzzling and difficult to understand' (p. 49). According to Oxford Brookes University (OBU):

Many teachers still find it difficult to identify able students...Underachieving able students may thus be especially at risk of being overlooked, and of not being adequately provided for.

(OBU 2006, p. 2)

To be able to recognise giftedness in certain groups of students, various and specialised approaches are needed. These groups include students with learning disabilities, students with physical disabilities, conduct-disordered students, students from non-English speaking backgrounds, students from culturally diverse backgrounds, socio-economically disadvantaged students, students disadvantaged by gender inequity, geographically isolated students, and underachievers. The Department for Education and Skills (DES) (2003) suggested that low attainment by students is closely associated with socio-economic disadvantage and 'continuing underachievement can

cause low social cohesion and leaves personal and economic potential unrealised' (p. 4). Experts in twice-exceptionality (students who are gifted and have disabilities) should be consulted because these students need comprehensive screening, to determine the services they should receive (Reis, Baum & Burke 2014)

There are also differences in the way some social associations and ethnic groups may perceive giftedness. Australia is a multicultural society where different 'abilities and achievements are valued differently by various cultures' (Gross 2004, p. 7). Some cultures value academic abilities very highly while others value social relationships or creative gifts. Many cultures may see giftedness as having a 'social handicap (e.g., lack of friends)' (Freeman 2020, p. 2), while other cultures put importance on being involved in one's community and having knowledge about one's culture. Reis and McCoach (2000) also agreed that 'the definition of achievement in a particular subculture may be very different from that of the dominant culture' (p. 162). Different groups and societies may only emphasise the importance of different qualities in their particular community.

Studies have found there are behaviours and indicators in different societies which can hinder student achievement. Qualities such as language ability, service to others, traditional knowledge and skills, and spiritual dimensions are intra-personal qualities which according to Ballam and Moltzen (2017) can influence student achievement. As a result, these intra-personal qualities and ideas 'can hinder gifted programs' (ETC 2012a, p. xxvi). Different roles in society and what society expects consist of different values and norms. What makes up achievement in one culture may or may not equal achievement in a different culture. Gifted students are a diverse group and can be found in all ethnic groups and cultures. 'Understandings about giftedness and talent are constructed within the context of a particular society and as such it is important to pay attention to the socio-cultural factors which might affect the gifted and talented students' experience of schooling' (Tapper 2014, p. 301). Teachers should be aware that in some cultures, there may be reservations to nominate a child because 'cultural norms may want to hold back or hide gifted children' (Merrick & Targett 2004a, p. 9). For example, it may be inappropriate to stand out from the rest of the group in a certain culture.

Tapper's study (2014), explored experiences of gifted students in New Zealand and portrays a series of profiles based on these experiences. Her investigation revealed culture certainly does exert an influence on the development of giftedness and talent. Reis and McCoach (2000) found that 'the construct of underachievement in gifted students differs across cultures' (Reis & McCoach 2000, p. 162).

Studies comparing the differences between Eastern and Western cultures in their conceptions of intelligence, revealed that the differences lie in the kinds of skills that are valued (Sternberg, Jarvin & Grigorenko 2011). What can be counted as gifted varies across different cultures and 'the behaviours that are needed to excel also differs between cultures' (Sternberg, Jarvin & Grigorenko 2011, p. 167). Sternberg, Jarvin and Grigorenko (2011) also accepted that even though fundamental skills maybe the same, it is how they are developed which can differ between cultures. In 2001, a Senate committee inquiry for the Parliament of the Commonwealth of Australia, on gifted and talented children, highlighted the need to identify various groups of children who were at risk of not being identified as gifted (Collins 2001) and to provide them with a range of opportunities to foster their talents and to prevent negative outcomes. Apart from the above-mentioned groups of children, Gross (2004) also included:

Children from economically disadvantaged backgrounds; children who were gifted but who had a learning disability; gifted students who had a physical disability; gifted students who were geographically isolated; gifted students whose abilities had been lowered by years of repetitive and unchallenging curriculum; and gifted students who deliberately hid their abilities for peer acceptance.

(Gross 2004, p. 4).

In Queensland Australia, Garvis' (2009) study of underachieving teenagers, defined the underachievement of a gifted student as 'classroom performance that is significantly below what would be expected from some measure of the student's potential' (p. 23). By defining an underachieving gifted student in this way, Garvis (2009) had actually measured some form of 'achievement'; and believed that the measure of a students' potential comes from classroom performance. This definition would suit any student and not just specifically an underachieving gifted student. Even though classroom performance was below what was expected, these students should have already been identified as gifted in their earlier years, to now be deemed underachieving gifted

students. What happened in their education (or possibly home life/or both) that they decided not to achieve anymore?

2.9.1: *Characteristics of underachieving gifted students*

As stated earlier, the key discrepancy with a student's ability is the difference between actual and potential performance. These students are not reaching levels of attainment expected for individuals with their ability. Such children have 'the potential for high achievement' (Davis & Rimm 2004, p. 58). Cornejo et al. (2021) suggested that underachievement amongst gifted students can result in negative consequences such as gifted students leaving school at a younger age. This represents a significant loss to society (Siegle, McCoach & Roberts 2017) and a loss for societies 'greatest potential resource' (Davis & Rimm 2004, p. 278). There are researchers including Baum, Owen and Dixon (1991); Rimm (1986); Smutny (2004); Van Tassel-Baska (1992); and Whitmore (1982 & 1989), who have cited common characteristics for underachieving gifted students. According to Smutny, these characteristics included:

1. Low self-esteem;
2. Consistently negative attitude toward school and learning;
3. Reluctance to take risks or apply one's self;
4. Discomfort with competition;
5. Lack of perseverance;
6. Lack of goal-directed behaviour;
7. Social isolation;
8. Weaknesses in skill areas and organisation; and
9. Disruptiveness in class and resistance to class activities.

(Smutny 2004, Common characteristics, para. 4).

However, Sword (2002) determined there were twelve characteristics common for underachieving gifted students. These included: poor self-concept, lack of integration towards goals, fear of failure, fear of success, academic skill deficits, inability to persevere, lack of self-confidence, excessive need for attention, avoidance of responsibility, thoughts of worthlessness, avoidance of competition, and negative thought patterns (e.g., despite test results, these students think they are unintelligent and/or feel unable to succeed despite their high intelligence) (Sword 2002). But lack of recognition and support for students who are underachieving and gifted, are the two major areas which need to be addressed (Sword 2002). These students become trapped in the underachievement cycle, where their ability is not realised and where

'they can even become less capable, they want to do better but don't know how' (Sword 2002, p.1). Gifted students who are underachieving are not realising their intellectual potential.

Despite the characteristics of underachieving gifted students being individual and specific, McCoach and Siegle (2001), Reis and McCoach (2000) and Whitmore (1989) identified three reasons for the underachievement of gifted students:

1. An apparent underachievement problem masks more serious physical, cognitive, or emotional issues (Whitmore 1989).
2. The underachievement is symptomatic of a mismatch between the student and his or her school environment (McCoach & Siegle 2001; Whitmore 1989).
3. Underachievement results from a personal characteristic such as low self-motivation, low self-regulation, or low-efficacy (McCoach & Siegle 2001; Reis & McCoach 2000). (Smutny 2004, Common characteristics, para. 3).

These three areas are frequently cited as characteristics of gifted students who underachieve (Smutny 2004). Teachers need to isolate the reason for students' behaviours because the cause for the underachievement may require different interventions. By not treating the cause, there could be serious ramifications for the underachieving gifted student (Post 2017; Reis & McCoach 2000). Many studies link underachievement with certain personality traits such as poor organisational skills, self-regulation and control, perfectionism, depression, extreme sensitivity, and stubbornness, to name just a few. The links between each of these traits and underachievement indicate a personal synthesis. That is, the characteristics that may be found in one person may not be found in another. However, Reis and McCoach (2000, pp. 159-160) 'developed an extensive table which lists a summary of associated traits found with 25 distinct characteristics.' Although Reis and McCoach (2000) described these characteristics, they have vehemently stated that:

For each personality trait common to gifted underachievers, there are many other underachieving gifted students who do not exhibit that trait. In addition, students who are not underachievers may exhibit one or several of these characteristics. Often, the lists of common personality traits contradict one another. Even the research on common characteristics in underachieving gifted students is often inconsistent.

(p. 158)

But even though Reis and McCoach (2000) have described the problems associated with gifted underachievers, they have determined the following behaviours are manifestations caused by the underachievement in gifted students:

Disruptive, delinquent, hostile, touchy, temperamental, frustrated.
Anxious, perfectionistic, worries about failure and success.
Procrastinates, easily distracted, seems unconcerned about work.

(p. 162)

While several authors including Heacox (1991), Rimm (2008) and Montgomery (2000; 2009) categorised a variety of characteristics of underachievement in gifted students, their profiles do vary considerably. More research is needed in this area in order to be able to reach an agreement on indicators and characteristics of underachieving gifted students. Regardless of this, Reis and McCoach (2000) have listed three types of underachievers: the 'anxious underachiever', the 'rebellious underachiever', and the 'complacent/coaster underachiever'. It is important to note that while these three types of underachievers may provide some association, 'they also illustrate the difficulty in trying to create a coherent profile of a "typical" underachiever' (Reis & McCoach 2000 p. 158). Even potentially high ability students have problems with underachievement, and there can be many problems that need to be overcome in trying to reverse this process. Reversing patterns of underachievement can be very difficult (Renzulli et al. 1999). It is also worthwhile to mention that the longer a child underachieves, the harder it is to change this pattern of underachievement. Underachievement in gifted children is difficult to reverse, but the earlier the intervention, the better the outcome will be. As required by the document, *Belonging, Being & Becoming: Early Years Learning Framework* (EYLF) (DET 2009), teachers need to 'value the diversity of children's different capacities and abilities' (DET 2009, p. 14).

Other studies have compared underachieving gifted students to high-achieving gifted students. White, Graham and Blaas' (2018) study over an 11-year period between 2005 and 2015, examined the methods used by other studies, to identify both giftedness and gifted underachievement. Their review found only nine studies (from a total of 957 studies) used methodologies which isolated factors associated with gifted underachievement. These nine studies discovered there were three characteristics

which were more frequent: motivation, emotion, and student's perceptions of school. Yet White, Graham and Blas's (2018) study showed six of the nine studies used only one measure to identify giftedness, even though leading researchers in the field of gifted and talented education want to 'dispel the myth that a single score is sufficient for determining giftedness' (Worrell, 2009, p. 242). Their research also revealed that the variability in identification methods suggested 'researchers might not be basing decisions on relevant published research' (White, Graham & Blaas 2018, p. 65).

Another comparative study by McCoach and Siegle (2003) consisted of 56 underachieving gifted students and 122 gifted achievers from 28 high schools across the United States. This study found that gifted achievers and gifted underachievers differed in their attitudes toward school and teachers, motivation, goals, but not in their academic self-perceptions. In contrast, Reis and Parks' study (2001) and Clark's more recent study (2012) showed self-perceptions of gifted students' abilities varied between the genders. These self-perceptions differed not only based on sex, but on attitudes (Clark 2012; Reis & Park 2001). There are other studies which also noted differences in how females and males behave. Gagné's (1993) study noted there are differences in how males and females exhibit abilities; and Payne, Halpin and Ellett's (1973) study on gifted teenagers, showed females and males attitudes differed markedly. The Organisation for Economic Co-operation and Development (OECD) noted the results of the Programme for International Student Assessment (PISA) (2012), showed 'in no countries did girls outperform boys at the highest level' (OECD 2015, p. 14).

According to data from Payne, Halpin and Ellett's (1973) study, the following are common attitudes of the female gifted child:

- She likes school, especially courses in science, music, and art.
- She likes her teachers.
- She regularly reads news, magazines, and other non-required reading.
- She is active in drama and musical productions.
- She does not go out on dates as often.
- She is a daydreamer.

And the following are common attitudes of the male gifted child:

- He dislikes school.
- He dislikes teachers and thinks they are uninteresting.

He does little homework.
He dislikes physical education and seldom engages in team sports.
He is regarded as radical or unconventional.
He often wants to be alone to pursue his own thoughts and interests.

(pp. 189-195).

Of these common attitudes, many would also be considered attitudes or behaviours of underachieving gifted students. Most of the male common attitudes would be considered characteristics or behaviours of underachieving gifted students, with males also showing daydreaming behaviours. Gagné's (1993) study indicated teachers and peers viewed boys as being more gifted and talented than girls. This difference was reflective of the behaviours of students in school and therefore, was considered to be based on legitimate observations (Gagné 1993), even though the behaviour of students could change outside of the classroom or outside of school. Tapper (2012) also agreed, that self-perceptions could lower achievement 'most gifted and talented students themselves saw high achievement as the determinant of ability; if they did not achieve, then that meant they were not smart in the first place' (p. 44). OECD (2015) also examined the PISA (2012) results as to why girls did not perform as well as boys in mathematics. The results found girls had lower levels of self-esteem; they had less belief in their own abilities; and greater anxieties towards mathematics (OCED 2015). In fact, the results found 'at every level [not only with the higher performing students], girls tended to have much lower levels of self-esteem' (OECD 2015, p. 31). These behaviours or characteristics or self-perceptions need to be considered, however recent research on gender differences for giftedness is considered not really relevant (Brenner 2021). It is interesting to note that 50 years ago, most of the common attitudes of boys were negative (he dislikes) and most of the attitudes of girls were positive (she likes). Even though today, these common attitudes mentioned by Payne, Halpin and Ellett (1973) are no longer seen as gender specific, they are still relevant characteristics and behaviours for many gifted students.

2.9.2: Achievement levels

The Australian reporting authority (ACARA) has found that 'achievement levels of higher performing students are flattening out' (DEECD 2012, p. 5). In addition, the Australian

Council for Educational Research (ACER) (2016) found performances in many areas of schooling in Australia have steadily declined since the start of this century. They indicated there are five facts related to the decline:

1. The reading and mathematical literacy levels of Australian 15-year-olds, have declined significantly;
2. There are growing disparities between Australia's schools which are increasingly associated with socio-economic background;
3. Large numbers of Australian students are falling behind year-level expectations and are not meeting minimum standards;
4. One in five Australian children starting school is developmentally vulnerable and at risk of being locked into a trajectory of long-term low achievement;
5. The teaching profession is becoming a less attractive career option for more able school leavers.

(ACER 2016, pp. 2-4)

The OECD (2019) showed Australia's ranking has steadily dropped with the PISA results. For instance, the most recent PISA data (OECD 2019) established Australia ranked 30th in mathematics, though it had previously been ranked 25th in 2015, 17th in 2012, 13th in 2009, 12th in 2006 and 10th in 2003; similar results also occurred in science and reading. This would indicate that Australia's curriculum is not meeting the needs of many students. Research has shown many of Australia's students are falling behind year-level expectations and are therefore, not meeting minimum standards (ACER 2016). ACER added that better student outcomes correlate with universal quality preschool access, which Australia does not really have (ACER 2016). Gifted students also have the same requirements. They need access to a preschool that not only identifies them as gifted, but is also able to meet their learning needs. The identification of most gifted students is just the beginning. They also need to have their needs met. But this can be problematic when many gifted students hide their ability.

Underachieving gifted students try to protect themselves by avoiding effort and achievement. They do not want their ability to be shown to others because 'they do not want to worry about teachers thinking that they are not as smart as they thought they were or they do not want their classmates to know how smart they are' (DEECD 2012, pp. 5-6). Grant's study (2012) established that unidentified gifted students often act out their frustrations in early childhood. This happens mainly due to boredom, causing

concern, stress and worry for their parents and teachers. The ETC (2012c) commented that under-stimulated gifted students may be bored and frustrated at school.

Recognition of these students may eventually mean that they will be our future leaders, scientists, inventors, philosophers, problem solvers, innovators, and so on (ETC 2012c). Thus, by recognising gifted students, the wider community would also benefit. The ETC (2012c) found there should be a state-wide approach needed to tackle problems in gifted education.

The ETC (2012a) recognised that in order for gifted students to have their needs met, they needed to have appropriate education. 'By nurturing their talents, we are not only meeting their rights to access an appropriate education, but also ensuring that the future of our society is in good hands' (ETC 2012a, p. 2). The image of gifted children being potential future capital, can be problematic because it places pressure on the child to achieve rather than taking into consideration the child's present situation. An investment into a child's future, can affect their current experiences but also future opportunities. As alleged by Delaune (2016), the future potential of the toddler could require high levels of economic monetary input in order to realise the child's accelerated abilities. This then positions children between their possible future investment into society, and being indebted to their parents.

Student wellbeing is essential for academic development and this is achieved by providing a classroom that is supportive. But only through identification can underachieving gifted students be supported to reach their full potential. The Department of Education Tasmania (DET Tas) (2022) has an *Extended learning for gifted students' procedure (ELGP)*, which commented that gifted students 'are provided with an engaging, challenging and rewarding education through appropriate curriculum, pedagogy, and educational pathways' (DET Tas 2022, ELGP, p. 3). Without identification and support procedures in place, gifted students cannot be adequately challenged. More importantly, 'for life resilience, if gifted students have never been challenged and never get things wrong because they're always easy, then we've taken away their right to fail and develop that grit to face challenges' (Jung & Slater 2018).

Also, the Department of Education Early Childhood Development (DEECD) (2014) stated 'to make a difference to improve support and learning opportunities, action is needed at the early childhood setting, school and system setting and across a wide range of areas' (p. 17). In Tasmania 'principals and teachers work with school psychologists, and in some cases, tertiary education providers to ensure a gifted student is supported' (DET Tas 2022, Gifted and Talented students, para. 5).

2.10: Use of tools for professional development and teaching practice

Teacher's beliefs or prior knowledge (teacher agency) play an important part in whether students are recognised and identified for gifted programs. According to El Khoury and Al-Hroub (2018), not only do teacher's beliefs influence whether a student is recommended for gifted programs, but also 'teacher's biases, attitudes, and expectations' (, p. 27). In order to change these perceptions, teachers need professional development about giftedness in order to keep up with current educational procedures and practices. The literature is clear on this issue, without professional development teachers are unable to recognise or identify gifted students (Jung & Slater 2018).

When effective professional development is structured, professional learning resulted in changes to 'teacher knowledge and practices and the improvement of student learning outcomes' (Darling-Hammond, Hylar & Gardner 2017, p.2). McGee's earlier research (2006) on Reading Recovery (RR), found that this framework of professional development supported student learning so that they could reach their potential. According to Darling-Hammond, Hylar and Gardner (2017), 'reading recovery is an example of a professional development model that has demonstrated effectiveness in supporting student learning gains in dozens of studies over several decades on multiple continents' (p. 5).

Using toolkits for professional development has been a way for teachers to develop their skills, competence, and knowledge. Appropriate tools and conceptual models 'help us to understand and adjust both the context and the intervention so as to maximise learning' (Anderson & Shattuck 2012, p. 17). There is ample evidence on using

individual resources for recognition of giftedness, however there has been a lack of research on the use of toolkits for recognition of gifted students. Nonetheless, toolkits have been used for professional development of staff in workplaces such as schools, afterschool programs and hospitals. 'Professional development is considered an essential mechanism for deepening teachers' content knowledge and developing their teaching practices' (Desimone et al. 2002, p. 81).

A longitudinal quantitative study in America of 207 teachers in 30 schools over three years (Desimone et al. 2002), investigated the effects of professional development on teachers' instruction. They found that teachers 'professional development focused on specific instructional practices, increased teachers' use of those practices in the classroom' (Desimone et al. 2002, p. 81). Their study also indicated that the quality of professional development experiences varies substantially between teachers and even with the same teachers over time. This finding, as explained by Desimone et al. (2002), means teachers' experiences with professional development will not necessarily result in meaningful, long-term, quality programs delivered in the classroom. In other words, only when the professional development is worthwhile it will result in 'the type of program that has the most potential for fostering significant and lasting teacher change' (Desimone et al. 2002, p. 81). Another discovery from their study revealed professional development is more effective when teachers participate with others from the same grade level, department, or school (Desimone et al. 2002). Although they do not specifically mention professional development, Thomas and Palmer (2014) agreed that it is advantageous and constructive for teachers to be 'part of a group that shares and reflects on their knowledge and instrumentation, practical classroom activities and ideas' (p.85) to create an environment conducive to teaching and learning.

A New Zealand study undertaken by Doherty (2011) evaluated the impact of professional development on teaching practice. Based on Doherty's (2011) study 'in order to be effective, EPD [Educational Professional Development] activities must be appropriately designed and delivered to meet the professional development needs of academic teaching staff' (p. 704). When teachers find professional development

relevant to their teaching, they will implement those activities in their classroom. Student learning happens when pedagogical restructuring and reorganisation challenges teachers to apply their professional learning in their teaching situations. In other words, important and significant learning happens when professional development is connected to teaching practice (Adams 2005).

Although Doherty's (2011) study found only a limited number of participants put what they had learned into practice, most of the participants (who were interviewed) commented that they would eventually use 'the tools [from the professional development] in their teaching' (p. 711). The study concluded there were issues with 'participants translating learning into changed behaviour in their teaching practice' (Doherty 2011, p. 711). These issues included motivation, professional development specialists having lack of control over the teaching and learning environment and the timing of the professional development. The study concluded that the participants achieved the learning outcomes and had a positive learning experience with the professional development but further research needs to 'gather data about participants' motivation to put their learning into practice' (Doherty 2011, p. 712).

Clark-Wilson and Hoyles' (2019) study investigated the use of an online professional development toolkit to support teachers' mathematics skills and student learning. This toolkit was developed to support the sustainability of Cornerstone Maths (CM) beyond the funded project. They discovered the toolkit could be used for inducting new teachers to the CM teaching approaches. Clark-Wilson and Hoyles (2019) believed this toolkit would be best placed to support teachers through professional development. The CM project began in 2011 by designing curriculum units that embed digital technology for learning in mathematics. The findings resulted in the participants commenting on two issues possibly being overcome by using the toolkit: increased knowledge and better access to suitable resources.

An online toolkit developed by the Department of Education and Training (DET) (2017b) called *Australian Teaching and Learning Toolkit* (ATLT), was based on global evidence

of teaching and learning strategies and the impact they can have on student outcomes. The DET reported that in schools which had implemented this toolkit there was evidence of 'an impact equivalent to an additional eight months of progress [for students]' (DET 2017b, p. 26). The principal of a large Victorian primary school (name not mentioned for anonymity) found the online toolkit to be a valuable resource because it made a difference to teaching and learning strategies, ultimately improving student outcomes, and this was especially encouraging because 'all the strategies referenced in the toolkit are heavily backed by research' (B Richards 2017, DETb, para. 7). He commented that the teachers at his school had used it for two years which have allowed them to go deeper and make a real difference.

The National Partnership for Quality Afterschool Learning developed an online *Afterschool Training Toolkit* (ATT) for professional development with Southwest Educational Development Laboratory (SEDL). In 2015, SEDL merged with the American Institute for Research (AIR). This toolkit is used by instructors and directors to obtain the resources they need in order to create 'fun, innovative, and academically enriching activities that not only engage students, but also extend their knowledge in new ways and increase academic achievement' (AIR 2009, Afterschool training toolkit, para. 1). It provides information on 10 ways to coordinate and conduct professional development through the resources in the toolkit. By doing this 'staff can reflect on their current practice, and try new approaches to teaching' (AIR 2009, ATT, para. 3).

Eynon and Iuzzini (2020) also developed a toolkit called *Achieving the dream* (ATD). This toolkit was inspired by a wide body of research and innovative practices for teaching and learning. The ATD toolkit is now being used at over 277 educational institutions in America. Eynon and Iuzzini (2020) envisage that this toolkit will reshape pedagogy and curriculum which is essential for how and what we teach. Eynon et al. (2022) integrated the ATD into the New Learning Compact (NLC) framework which enabled the framework to offer practical resources for teachers. These resources aim to focus 'new attention and energy on teaching and learning' (Eynon & Iuzzini 2020, p. 4). This framework facilitates teacher learning to improve student success. Eynon et al.'s

(2022) study found that institutions need to, 'make systematic investments in professional learning for all educators...and put learning at its core' (p. 45).

The discussion has shown that toolkits are effective for professional learning and this has indicated that there is evidence to support that toolkits are valuable learning tools for teachers. However, there is little research literature on how effective toolkits are for helping teachers to identify gifted students. This also includes how to provide appropriate pedagogy for gifted students and how to monitor their progress once identified.

2.11: Funding for Victoria's gifted

The Gifted Education Research Resource and Information Centre (GERRIC) and the New South Wales Department of Education, Employment and Workplace Relations (DEEWR), developed a free education kit in 2004. This free education kit was developed as an online professional development package for teachers who wanted to make their classrooms exciting and stimulating for gifted and talented students.

Although this package was developed in NSW, it was readily available to Victorian teachers. However, this package did not count towards teachers accredited professional development requirements, and 'was never really supported, so was not widely used' (Plunkett 2023, Examiner's comments, p. 83).

In 2019 the Victorian Government announced a \$60 million package for Victoria's brightest students to help them become engaged and excel (Ilanbey & Carey 2019). The Student Excellence Program (SEP) involves 'up to 100,000 government school students who have the opportunity to participate in the Victorian Challenge and Enrichment Series from term 3, 2020 until term 4, 2022' (DET 2021, SEP, para. 3). This program included online and face-to-face classes, with every government school in Victoria having a specifically trained teacher for these lessons. This funding would be provided until the end of 2022. James Merlino, Victoria's Education Minister, commented to Ilanbey and Carey 'Parents can be assured that no matter which school their child attends, there will be a program to push and extend high ability students'

(Merlino 2019, *The Age*, 24 October). Although this was the case, the Principal Policy Officer (2021) reported only 'eligible' government schools would be involved in this program if they appointed a high-ability practice leader. Originally, this program included training for one teacher in every government school, now this has been changed to every school will have access to a high-ability leader who will 'act as a point of advice' (DET 2022c, Student excellence program, para. 2).

As of December 2021, the Principal Policy Officer stated by email, there have been 24,000 students across Victoria who have participated in the 'high-ability' program (Principal Policy Officer 2021, email, 10 December). This number is far less than the number of gifted students identified by the Education and Training Committee in 2012 (85,000). In 2021 the number of gifted students estimated to be in Victoria was approximately 100,000 (10% of the student population) (ETC 2021). This means, only around 25% of gifted students, have been involved in this program, or only about 375 schools from more than 1500 schools in Victoria. This program was meant to provide for as many as 48,000 high-ability students in years 5 to 8 in government schools until the end of 2022. Although, the 'high-ability' program has now been extended from term 1 2023 to term 4 2025, with an additional 57,000 available places (DET 2022c, Student excellence program, para. 15).

The Victorian Government also invested \$22 million for three- and four-year-old kindergartens. This included the development of an Early Years Assessment and Learning Tool (EYALT). The University of Melbourne worked with about 120 kindergartens across Victoria in 2020 to develop this tool. During 2021 the toolkit was piloted and trialled by 50 kindergarten services in four areas across Victoria. This tool is still in its assessment stage. At present, most Australian schools do not get funding for students identified as gifted.

2.12: State or national gifted policy?

The purpose of a gifted education policy is to provide direction to the teacher on implementing effective learning and teaching practices in order to meet the needs of

gifted students. Currently there is no state policy or common criteria for recognising or identifying gifted students in Victoria. Teachers' beliefs and prior knowledge of how 'schools and society understand and practice giftedness are based almost purely on their own practice' (El Khoury & Al-Hroub 2018, p. 74). Feldhusen (2005) also indicated that a teacher's understanding about the concepts that link gifted and talented can impact and influence their teaching practice. Procedures to determine which students are given the opportunity to be involved in gifted programs, rely on a schools' definition of giftedness as well as a school's policy and its implementation. Without a gifted policy, this may not happen.

The Education and Training Committee of Victoria (ETC) (2012) established there was 'no national policy on the education of gifted students despite the Senate committee recommending a national gifted education strategy in 2001' (p. 7). Even though the Senate committee recommended a national policy over 20 years ago, today there is still no national policy in Australia today. ACARA (2016) has a commitment to developing a national curriculum in order to identify gifted students. The F-10 Australian Curriculum was first released in 2009, it has been revised many times, with the latest review happening in June 2020. ACARA believed that links to government, independent and catholic schools in all states and territories, reflects Australia's willingness to work together to provide for all Australians, and claims that 'working nationally makes it possible to harness collective expertise and effort in pursuit of a common goal' (ACARA 2016). Yet there is still no national policy for gifted education. A review of the Australian curriculum found it needed to be updated, refined, and reorganised, so that it could better support teachers.

Even in 2021, governments across Australia had not agreed on policies designed to improve outcomes for gifted students; and no state or territory had recommended using the same definition for gifted classification. Most identification of gifted students occurs in schools (NSGT 2018) for the purpose of choosing students for their gifted programs. Individual schools determine which and how many students are placed in the programs depending on their own definition, philosophy, and resources. The fact that schools

have their own policies or strategies may mean that definitions differ from one school to another, with the resulting difference in the number of students who are able to be included in programs (if there is a gifted program); and funding for gifted education.

United Nations Educational, Scientific and Cultural Organisation (UNESCO) (2013) is an international corporation which maintains that educational policies should reflect a government's goals and priorities. Educational policies are meant to provide a direction and are 'intended to guide and inform educational practice' (Jolly & Robins 2021, p. 71). Heuser, Wang and Shahid (2017) agreed that policies play an important role in the 'translation of perceptions into practices' (p. 10). While the educational needs of gifted students have been recognised in Australia, approximately four decades later, state and territory policies have not been analysed in their totality (Jolly & Robins 2021). Jolly and Robins' (2021) study indicated there was an irregular approach to policy and guidance which resulted in the specific learning needs of gifted students not being addressed. An earlier analysis of educational policy by Brown et al. (2006) found 'The ultimate test of any educational policy is the extent to which it improves the lives of students, and the effectiveness and the efficiency of schooling' (p. 11).

The situation in the State of Victoria is no better than it is at the national level. No policies for the gifted and talented had been implemented in Victoria for over a decade (DEECD 2013a), despite the ETC (2012b) recommendation that a new Victorian policy be developed. By 2014 the DEECD, lacking a clear policy direction, reported that 'the focus has shifted away from gifted and talented education' (DEECD 2014, p. 11), which created the issue of gifted students' needs being overlooked. The *Aiming High* strategy proposed it would 'help to dispel confusion about what being gifted and talented means, raise the profile of gifted and talented education, outline important new actions, and articulate expectations of early childhood settings, schools and the Department' (DEECD 2014, p. 11). One of the problems associated with gifted programs, is that they do not always cater for every gifted student or even for students who are gifted. Often achievement and ability are considered to have more to do with being gifted, although not all gifted children are achievers. This lack of clarity was understandable given there

had not been a single definition of giftedness the experts could agree on (Bainbridge, 2013).

Up until recently teachers could access the Victorian Government website (ETC), which recommended using the following procedures for identification: a checklist developed by the Minnesota Council for the Gifted and Talented (2018); Silverman's 2 rating scale (developed in 1993); and the New Zealand Te Kete Ipurangi (TKI), Ministry of Education (Te Tāhuhu o te Mātauranga) (n.d.) early childhood identification resource. TKI is the Ministry of Education website used for New Zealand's bilingual education portal. This resource contains several questions which need to be filled out by the student's teacher. The Minnesota resource can be used by either primary and secondary teachers or by the parents; and the Silverman 2 rating scale can be used by early childhood or primary teachers. Recently (as mentioned in the abstract), the Victorian Department Education and Training (DET) (2020) released an online 'High-ability' toolkit for teachers. They identified Neihart and Betts' (2010) resource (as did the ACT) to use for identification purposes.

Over 10 years ago there was 'no regulatory approach to the identification and education of gifted students in Victoria' (ETCa 2012, p. xxiii), and even though this was recommended, Victorian schools are still not obliged to have a gifted policy for identification of gifted students or to provide appropriately for any student identified as gifted. Apart from their online toolkit (ETC 2020), which is not a requirement, there is still no procedures in place. Individual schools can decide what provisions are needed for their students, with many schools having no, or minimal, programs devoted to gifted students. The report, *Inquiry into the education of gifted and talented students* (2012) found:

There is very limited provision for gifted students at the early childhood stage. While some primary schools appear to be catering for gifted students very effectively, most primary schools are providing minimal or insufficient provisions for gifted students. At the secondary level, selective entry schools, specialist schools and schools offering the Select Entry Accelerated Learning (SEAL) Program play a valuable role in meeting the needs of Victoria's gifted and high-achieving students, although demand greatly exceeds available places.

(ETC 2012a, p. xxiv)

With no clear policy directive, identification of many gifted students 'does not usually happen at school and may only happen later on in their education' (ETC 2012a, p. xxiv).

In Australia, different states and territories use broad and diverse approaches to identify gifted students. This is rudimentary and perplexing, when the school-based definition of giftedness is actually founded on ability, only allowing for students who achieve and do well in school. The Education and Training Committee argued 'school based gifted programs do not really cater for gifted students' (ETC 2012a, p. 167). This is because, presumed gifted students are usually identified by how well they perform in their classroom, with their results being analysed and then measured against other students' scores. Using this as a method for identification purposes does not really mean they are gifted. Teacher's identification of gifted students 'relies primarily on students' high intelligence and achievement' (Matheis et al. 2020, p.24). Some definitions of gifted include motivation and achievement, while others look only at their abilities. Paul Double, a committee member for the Victorian Association for Gifted and Talented Children (VAGTC), stated, 'traditionally teachers identify gifted and talented students as happy, smiling, successful, colour-between-the-lines type' (VAGTC, 2011, p.4). This does not necessarily mean a student is gifted but this is how most schools define a student who is gifted. Gifted programs usually include students who are capable and motivated, but not necessarily gifted students: 'high achievers are more likely to be selected for programs than the truly gifted' (ETC 2012a, p. 41). The Senate Inquiry (Collins 2001) highlighted the need to identify students with intellectual potential, but Jarvis and Henderson's study (2015) with 71 schools in South Australia (SA) showed that very little has changed in gifted education. Their study confirmed that over 14 years later 'schools in South Australia are still not mandated to identify or provide educational needs for gifted students' (Jarvis & Henderson 2015, p. 70). This is certainly not equitable education for students who are gifted.

South Australia (SA) also has very few schools which have formal evaluating procedures and provisions for gifted students. There has not been much research or evaluation of gifted education provisions in SA, and it therefore remains unclear to what

extent schools across the state engage in best practice in this area (Jarvis & Henderson 2015). This is an example of another state education system, which is not meeting the needs of their gifted students. The Department for Education and Child Development (DECD) released a document called, *Gifted and Talented Children and Students*, in 1995 that 'offers guidance on the identification of gifted and talented learners and the provision of appropriate curriculum, pedagogy and educational pathways' (p. 3). This document was updated in 2010; but 'the revisions were not substantive or based on a broad process of consultation or evaluation, and the policy has never been mandated in schools' (Jarvis & Henderson 2015, p. 70). In New South Wales, Jung and Slater (2018) commented 'gifted education is being revised but the current policy does state that teachers in classrooms have the responsibility of identifying gifted students' (Jung & Slater 2018). Also, Australian research on the issue of identification in under-represented groups – including those with an ethnic background; students with English as a second language; who receive financial assistance; and those who accessed special education services) – remains problematic. This issue 'has long been reported in International literature on gifted education but there is no current Australian data published in this area' (Jarvis & Henderson 2015, p. 72). Comparing student outcomes, equips the teacher with valuable information. Exactly how valuable this information is, depends on the teachers' interpretation or knowledge of the characteristics and behaviours of underachievement and giftedness; and the teachers' ability to be able to interpret the results. This resulting information could point to a student whose potential has been undiagnosed.

Originally, it was Victoria (and Western Australia) who led the way in the field of gifted education by introducing gifted and talented policies (Kronborg & Cornejo-Araya 2018). But Victoria has lacked any obvious organisation with the education of gifted students since the 1970s (Plunkett & Kronborg 2007). Victoria and other Australian states and territories have implemented various strategies and gifted policies for the benefit and education of gifted and talented students:

- 1977 Victorian Gifted Task Force established
- 1978 Victorian Association for Gifted and Talented Children (VAGTC)
- 1981 First Select Entry Accelerated Learning (SEAL) program introduced at University

High School in Victoria

- 1983 The World Council for Gifted and Talented Children (WCGTC) conference, scrutinised Australian gifted education
- 1985 Australian Association for the Education of Gifted and Talented (AAEGT) was established
- 1988 First Australian Senate Select Committee inquiry
- 1995 AAEGT became affiliated with all Australian states and territories
- 1995 The first official gifted policy *Bright Futures* introduced in Victoria
- 1999 Gifted Education Strategy replaced *Bright Futures*
- 2000 All states and territories have a gifted and talented policy, except Victoria
- 2000 Ministerial Advisory Committee for the education of gifted children established
- 2001 Senate inquiry into meeting the needs of gifted and talented students
- 2003 WCGTC held its first conference in South Australia
- 2005 Australian Government released gifted professional development for teachers in six modules which can be accessed online
- 2006 32 Victorian schools are involved in the SEAL program
- 2008 Australian Curriculum and Reporting Authority (ACARA) was established to oversee the development of a national curriculum for giftedness
- 2012 The *Inquiry into the education of gifted and talented students* released with a recommendation to list schools that had gifted programs
- 2014-2019 *Aiming High: A strategy for gifted and talented children and young people* released
- 2015 Victoria State Government, Education and Training introduced a policy (replaced *Aiming High*) that places the responsibility on individual schools for meeting the needs of gifted students
- 2018 Association for Gifted and Talented Education Victoria (AGATEVic) established
- 2019 Victorian Government developed an online 'High-ability' toolkit for teachers including a resource developed by Neihart and Betts (2010).
- 2019 Victorian Government unveiled a \$60m package for Victoria's brightest students. The Student Excellence Program would start Term 3 2021 and finish Term 4 2022. Now extended to term 4 2025.
- 2020 Victorian Government worked with Melbourne University to develop an early years toolkit for three- and four-year-old kindergartens at a cost of \$22m.

Despite these initiatives there is still no clear policy in Victoria regarding the education of gifted and talented students, nor is there agreement at the national level on what constitutes a gifted student.

2.13: Emergent gaps in our knowledge

Currently there is 'limited research conducted on gifted education in Australia' (ETCa 2012, p. 109). Inconsistencies in our education system has led to gifted students not being identified and their needs not being met. This is especially pertinent for gifted students who underachieve. Effective measures need to be put in place for identification. However, there are currently gaps that exist in the research literature that

have been realised by this study. That is, there is very little research literature on how effective toolkits (and resources) are for teachers to be able to identify gifted students, let alone underachieving gifted students; how to provide appropriate pedagogy for gifted students; and how to monitor their progress once identified. These shortcomings have provided justification for this research. Although this study is in its rudimentary stage in this field of research (gifted education), it has the potential for development and for the identification of giftedness and gifted underachievement.

2.14: Summary of chapter

This chapter identified various definitions of underachievement and giftedness. For this current research, giftedness refers to students who have high potential in individual abilities, qualities, and interests, as well as students who have not realised their high potential; this has been adapted from Victoria's (DET 2021; ETC 2012a) accepted definition of giftedness. The chapter has discussed the various characteristics, behaviours and indicators of underachievement and giftedness, especially those of underachieving gifted students as well as negative aspects of giftedness.

Another important but as yet unresolved issue in the research literature, is the difference in the views on the percentage of students believed to be gifted. Calculations ranged from 5, to 10, to 15% (Renzulli noted it could be as high as 20%). This lack of consistency complicates the debate about who is and is not potentially gifted. This chapter also investigated the idea of a state or national policy on giftedness.

2.15: Outline of current project

The following points refer to the specifics of this current research:

- The approach to this research: Theory, methodologies, and methods;
- Development of the toolkit;
- Obtained participants and the experts;
- Initial meeting with participants including a professional development and providing the participants with a hardcopy of the toolkit;
- Intervention: Participants implement the toolkit in their classrooms;

- Interview using an interview schedule;
- Arrangement of data in themes and like results;
- Rearrangement of data;
- Triangulation of data;
- Findings of survey results using multiple methods;
- Findings of meeting and interview data using similar methods;
- Discussion of all data;
- Conclusion with recommendations.

This leads into chapter three, the theoretical perspective, methodologies, and methods, that have been utilised for this study. It is important to establish, the what and why, of these different approaches. Teacher Agency Theory or TAT, which is a relevant methodological theory for this research because the teachers' interpretations of giftedness, underachievement, and the toolkit, along with the researchers' interpretations of the teachers views and ideas (teacher's agency), were used as the main source of data.

Chapter Three: Theory and Methodology

'Research methodology is the study – description, explanation and justification – of methods for conducting research'

(Kaplan 1964, p. 18).

This chapter discusses the journey the researcher took and how the research was designed and conducted. The theoretical framework utilised for this thesis is Teacher Agency Theory (TAT). This framework's underlying message is that it empowers teachers to design, implement, and adjust processes for classroom strategies. In other words, it gives teachers a role in decision-making, the ability to enable experimentation and the ability to utilise research to innovate and make changes.

The philosophical paradigm for this research contains the epistemological, ontological, and methodological perspectives the researcher has taken to complete this study. Denzin and Lincoln (2005) described a philosophical paradigm as 'the researcher's net' (p. 183). A researcher needs to understand the purpose of the research, its: ontological perspective; epistemology; methodology; methodological theory, perspective, position, and design; methods and approach to analysis. Table 3 (p. 109) describes, in more detail, the features of this research.

Henning, Van Resburg and Smit (2004) referred to qualitative research as the type of inquiry in which the qualities, the characteristics or the properties of a phenomenon are examined for better understanding and explanation. Further, the approach to methodology for this specific study was influenced by the idea of methodological flexibility supported by Miles and Huberman (1994):

To us it seems clear that research is actually more a craft than a slavish adherence to methodological rules. No study conforms exactly to a standard methodology; each one calls for the researcher to bend the methodology to...the setting

(p. 5).

The research process of this project was in line with qualitative investigation. The researcher was actively engaged in the research process and used qualitative research methods, such as one-on-one interviews, content analysis and evaluative assessment. These types of methods are designed to help reveal the behaviours and perceptions of

a targeted audience, which in this case were the teachers who became unwitting researchers for this study. Qualitative research methodology can provide ‘the variety and depth of data required to understand the phenomena under study’ (Babbie 2005, p. 99). A qualitative research approach was considered appropriate because this study was aimed at gaining insight into the teacher’s perspectives on underachievement and giftedness and the validity of the toolkit.

3.1: Epistemology and ontology

The epistemology for this research is interpretivism. Interpretivism for this research is an inquiry which is based on someone’s ontological and subjectivist epistemological beliefs. It is about studying the current situations of the participants, who in this case are practising teachers, and what their current knowledge is about giftedness. Denzin and Lincoln (2005) state that ontology ‘raises questions about the nature of reality and the nature of human beings in the world’ (p. 183). This study investigated the relationship between the participants’ prior knowledge and their new knowledge. In other words, it describes how the participants made sense of their world pre- and post-intervention. Human knowledge especially involves validity, methods, scope and the difference between opinion and well-founded beliefs. Capturing human experience is a fundamental challenge for researchers. Interpretivism ‘sometimes interchangeably named social constructivism or interpretive social science’ (Chen, Shek & Bu 2011, p. 129), is research for understanding where knowledge becomes emergent because of the research process. This would then be extended to knowledge that is produced and interpreted.

Interpretivism is relevant for this research as it investigates the teachers’ interpretations of giftedness, underachievement, the association with gifted underachievement and the implementation of the toolkit. Interpretivism also allows for the researcher’s interpretations of the teachers’ views and ideas, along with the literature, which have been used as the main source of data. Process ontology is fundamental where phenomena can be explained and pieced together. Interpretivism is evident and applied in this study through the qualitative research, to discover and interpret the meaning

behind the underachievement of gifted students and to understand why identification remains problematic. The teachers were engaged in this research as they implemented the toolkit in their classrooms. The data was obtained through the pre- and post-survey, as well as through interviews and the teachers sharing some data. This is how data and knowledge were obtained and produced.

There are various practices in interpretivism where 'human interpretation is the starting point for developing knowledge about the social world' (Prasad 2005, p. 13). In this case, teachers developed knowledge about the use of a toolkit to help identify underachieving gifted students. Interpretivist researchers are interested in the participants' subjective interpretations (Chen, Shek & Bu 2011). The researcher depended on the participants' points of view about the resources they used. However, other researchers believed when participants are placed in a position to recall information, that it may not necessarily be reality because they are reminded of an emotion or memory. Nomm (2001) proposed that research processes tend to 'evoke, rather than to represent realities being investigated' (p. 282). This research aimed to garner prior observed knowledge about giftedness, and the teachers' ideas and thought about the use and implementation of the intervention (toolkit), which would represent their current knowledge.

Within interpretivism, phenomenology is important in studying the organisation and the interpretation of the world, and how these interpretations are made (Prasad 2005). Generally, phenomenology draws attention to the experience of people under particular circumstances and times. It looks at the phenomena of the 'what, why and how we engage with the world around us' (Willig 2008, p. 52). According to Willis (1995), interpretivists expressed there is no correct way or particular method to knowledge, but within phenomenological research there are two major approaches: descriptive phenomenology and interpretive phenomenology (Willig 2008). Descriptive phenomenology 'presents the phenomena experienced by the participants' (Chen, Shek & Bu 2011, p. 130), while interpretive phenomenology, not only includes the participants experience but also emphasises the importance of engagement with texts and scripts

(Chen, Shek & Bu 2011). For this research, interpretive phenomenology or an interpretive engagement method has been used to interpret the information obtained during the initial meeting and interviews. The researcher engaged with all the participants in order to obtain their current knowledge of underachievement and giftedness and to introduce the toolkit for teacher recognition of these attributes. After implementing the toolkit, the researcher engaged with the participants to obtain information about what they thought about the toolkit and obtained new knowledge from the participants about the characteristics and behaviours of giftedness. Finally, themes and patterns were looked for within this data, to see if the implementation of the developed toolkit was a viable strategy for recognition of underachieving gifted students

Hypothetically, the epistemological position of this qualitative research can lead to the belief that the data collected should provide information needed about the toolkit and its viability. It looks at the relationship between the participants and the toolkit, which resulted in the participants' interpretation or their view point about the toolkit, leading to ideas, concepts, and understandings. In other words, a phenomenological interpretivist inquiry developed a 'dense and rich theory grounded in participants' experience' (Chen, Shek & Bu 2011, p. 136). For this study, the researcher needed to theorise (based on the data) and to be accountable, in order to develop knowledge of what may be happening in schools. Disclosing all the information obtained from the participants, has allowed for greater transparency and accountability (Albu & Flyverbom 2016).

Researchers need to have a 'selection of research approaches and techniques to assure the quality of their research, while recognising alternative ways of exploration' (Chen, Shek & Bu 2011, p. 135). In other words, researchers need to adapt to the situation and clarify their position in order to achieve meaningful solutions to existing realities. But in order to do this, the researcher needed to be involved in the inquiry process by asking questions, note taking during interviews and recording the interviews. In this way, the researcher is identified as being the author of the research findings (Willig 2008). Interpretivism acknowledges that knowledge claims are considered to

contribute to understanding what is happening, so that actions can be taken to amend the problem, in this case, of underachievement in gifted students.

Even though the nature of this research was exploratory, it has built on existing knowledge and theories, and was also open to any new phenomena which could have been discovered. The researcher hoped to generate ideas to suggest possible relationships between teachers' knowledge about underachievement and giftedness, before and after the intervention, in order to understand if the developed toolkit is a viable method to identify gifted students who underachieve. Within the interpretivist stance, researchers may not be looking for a new theory, even though the data can be used to generate a theory. As Babbie (2005) professed, researchers can seek to discover patterns which could be used to explain wider phenomena. For this research, information obtained was discussed between the participants and the researcher so that it could be reliably interpreted and understood. Nash and Murray (2010) agreed, that when people experience new things, they integrate new knowledge with their current knowledge, which then creates new information to implement and which can be passed on to colleagues. This research is positioned within the parameters of an interpretivist paradigm and guided by Teacher Agency Theory (TAT).

3.2: Teacher Agency Theory (TAT)

Teacher Agency Theory (TAT) (Figure 5) is a theoretical model which involved teachers making an active contribution to their work and by extension to students' learning (Priestley, Biesta & Robinson 2016). In other words, teachers play a critical and central role for educational improvement. TAT is based on the understanding that when there is continuous change, schools and teachers become developers of the curriculum. TAT can facilitate the investigation of teachers' current practice, where teachers and teacher researchers, identify and addresses the change teachers feel they need to make in their practice in certain situations (Biesta & Tedder 2006). The theory's objectives are to identify the goals and outcomes that researchers and teachers pursue. These goals are intentional and effective in that they incorporate both purpose and action. In this study the goal was to investigate the viability of a toolkit for identification of underachieving

gifted students. A researcher's role in educational research is to describe 'what is the case' and it is for others to prescribe 'what ought to be so' (Clark 1997, p. 91). Even so, teacher's agency is influenced by experiences and beliefs from teacher's past; and according to Varpanen et al. (2022), teacher's agency is typically limited to only short-term perceptions and not to long-term perceptions of education.

There are many competing accounts of inquiries, theories or paradigms which change over time because 'each successive theory builds upon and improves earlier versions' (Clark 1997, p. 29). Theory is a set of interrelated concepts, that can explain or predict situations or events. The actions the researcher took to collect and analyse data, form a sequence of events that are all interrelated. These actions can include strategies for the research, interventions, and ensuring the research is ethically sound. Practice, theory, and research begin to converge when they are tested in the field. Theories that gain recognition in a discipline can shape that field by instigating change for the benefit of the community.

Priestley, Biesta and Robinson's (2016) agency-as-achievement model (Figure 5) was created by combining ideas from Emirbayer and Mische (1998). Within the educational context, the objective of TAT is both action and intention. Action in this case was the creation of the toolkit and investigating the results of the intervention where participants implemented the toolkit. This was followed by establishing whether the action had achieved its intended purpose, the recognition of gifted students, especially underachieving gifted students. Professional growth is about continuous learning and development.

According to Biesta, Priestley and Robinson (2015), teacher agency allows teachers to exert judgements and control over their own work. Teacher agency is an 'indispensable element of good and meaningful education' (Biesta, Priestley & Robinson 2015, p. 624). Teachers can make an active contribution to their own work and therefore to the quality of education. The three elements or dimensions of teacher agency, are represented in Biesta, Priestley and Robinson's (2015) model (Figure 5) with the iterational (past), the

projective (future) and the practical-evaluative (present). Their model involved these dimensions to enable the data collected to be understood. All three dimensions play a role in teacher agency but within agency teachers' input is varied.

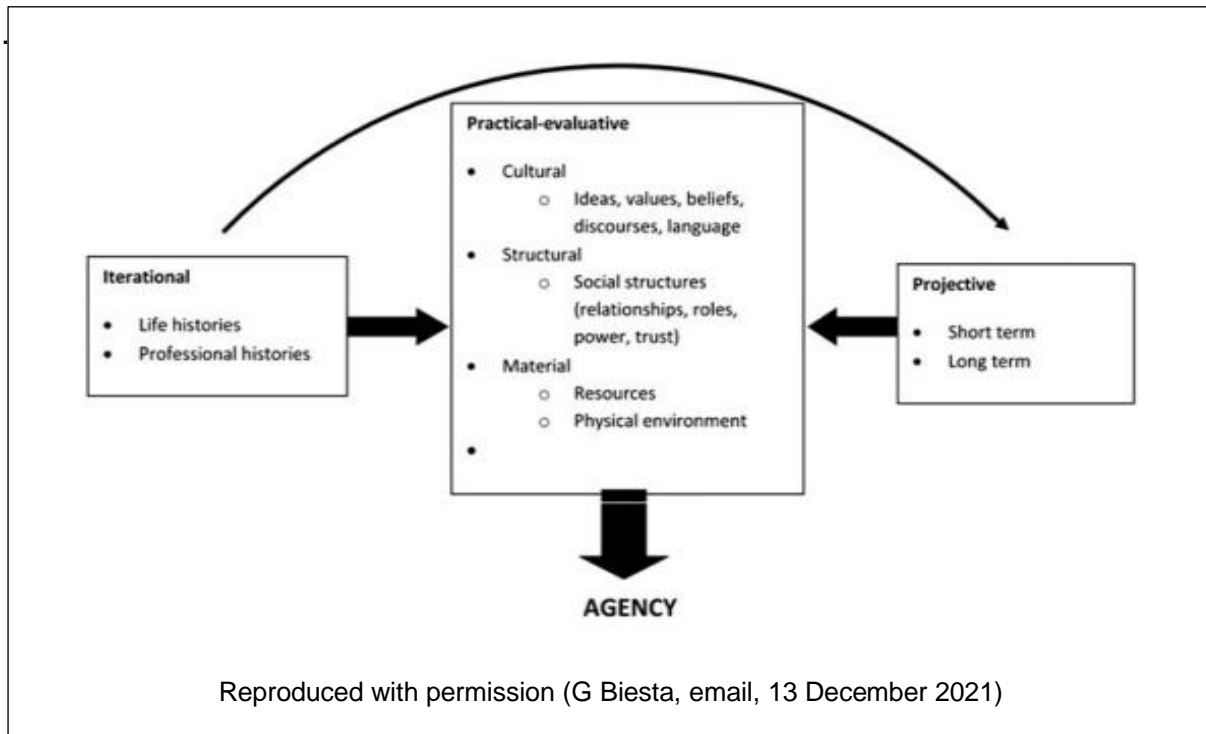


Figure 5: A model for understanding the achievement of agency

The iterational dimension of teacher agency is about reactivating past patterns of thought and action which are usually integrated within the classroom. This dimension involves the life, professional histories, and prior knowledge that teachers bring to the classroom. The projective dimension allows for short-and-long term goals to be projected into classroom decision making. These goals emphasise teacher's aspirations, for example, the desire to cater well for student's needs. This dimension is about generating future actions in relation to teacher's hopes, fears, and desires for the future.

The practical-evaluative dimension contains the three aspects of cultural, structural, and material elements. The cultural element involves beliefs, ideas, values, discourses, and language. The structural element involves social structures including relationships,

roles, power, and trust. This dimension is about teachers making judgements about what actions need to be put in place in response to 'emerging demands, dilemmas, and ambiguities of presently evolving situations' (Emirbayer & Mische 1998, p. 629). The material element involves resources and the environment. All of these dimensions inform agency, that is, the teacher's active contribution to their work and its conditions which shape the quality of education (Biesta, Priestley & Robinson 2015).

Biesta, Priestley and Robinson's (2015) model formulated the question: What role do teachers' beliefs play in achieving agency? They also asked, where do teachers' beliefs come from? These questions pertain to the past or iterational dimension; How do beliefs motivate action? – this question is pertained to the future or projective dimension; and how do these beliefs influence what is actually done? – this question is pertained to the present or practical-evaluative dimension. Teachers' beliefs inform all three dimensions and impacts on how agency is achieved. Teachers rely on previous evaluations of students to ascertain what measures need to be put in place, for example if a student has been identified as having a learning disability. Past experience and prior knowledge are examples of the iterational dimension of agency. The participants were asked about their knowledge of giftedness and underachievement. Clark stated 'the test of interpretive inquiry is to discover the motives, desires, beliefs, values and attitudes' (1997 p. 38), of the participants. Teacher's agency is not just about teacher's capacity to engage about curriculum, education, teaching and learning; it is also about teachers' beliefs, which can be subject to cultural needs.

3.3: TAT and Interpretivism

TAT with interpretivism can be used to explain and predict certain phenomena. Klein and Myers (1999) believed theory plays a crucial role in interpretative research. Interpretivism provides a theoretical perspective for qualitative methodology and provides a frame for the use of Teacher Agency Theory (TAT), to explore the perspectives of teachers regarding the use of a toolkit for recognition of underachieving gifted students. The interest of interpretivists is not necessarily the generation of a new theory, but to evaluate and refine existing theories (Thomas 2010). In other words, the

interpretivist stance can view theory as being used for understanding, design, and action. Taking this interpretivist perspective, and within a qualitative framework, this study was concerned with identifying the factors that impact on how, and to what extent, the developed toolkit would be a viable method for the identification of underachieving gifted children. The interpretivist researcher relies upon the phenomenon being studied and the participants' point of views (Creswell 2009).

While interpretivism was selected to frame this study, TAT was also used to analyse the literature. It is used to discover and understand how teachers feel, perceive, and experience their world 'aiming to gain in-depth meanings and particular motivation for their behaviours' (Chen, Shek & Bu 2011, p. 129). Using this theory with interpretivism also acknowledges that even though knowledge claims made by the participants can be regarded as obsolete or not certain, it is considered that these claims can contribute to understanding what is happening, and then the actions taken, or planned, to amend the problem. As Chen, Shek and Bu (2011) surmised 'As long as knowledge claims emerge out of reasonable methods of doing science, they can be viewed as a guidance for other inquiries about reality' (p.134). The researcher elicited the knowledge of the participants that was obtained from the research process. By identifying the importance of the research process, the researcher and the participants knew what was required, to be able to finish the study and pursue further understanding of the phenomenon.

3.4: Research design, methodology, and methods

After the researcher explained the procedure of the study in a brief professional development, the participants investigated the use of a toolkit in their schools. After implementing the toolkit, the participants were involved in an interview using an interview schedule (Appendix E) and answered questions in relation to the toolkit. This resulted in a large amount of information that needed to be transcribed, proof-read, and placed into categories, which facilitated the analysis and interpretation of the participant's knowledge. Even though the participants may give varying results, ideas, or even conflicting accounts, there is no basis for placing one interpretation over another. In accordance with Clark (1997) 'all interpretations are different but none can

be judged to be more or less true than any other interpretation' (p. 39). While these various interpretations of reality are legitimate, the researcher in this study had all the participants verify the transcripts to make sure the content was faithfully represented what they wanted to say, and that all information and data obtained was included in the final analyses.

There is an array of competing viewpoints about social inquiry for educational researchers. The choice of the framework relies on the way in which the data is planned to be collected, analysed, and interpreted; in this regard and for this study 'social inquiry requires an interpretive understanding' (Clark 1997, p. 34). Interpretivists must take an interpretive stance, that is, they should conduct the inquiry in a logical, systematic, inquisitive, investigative, explanatory way. This allows the social world of the participants to be understood by looking at the meanings of their social experiences. Other interpretations of reality can be suggested by the researcher, but for the researcher's account to be valid, researchers must follow three steps in the view of Carr and Kemmis (1986):

1. Co-ordinate the various meanings into a coherent framework;
2. Meet the evaluation criteria of the research community;
3. Satisfy the evaluation criteria of the research participants, that is, it must be accepted by them as being a plausible account of their lived experiences.

(p. 92).

Carr and Kemmis' (1986) research was about encouraging practising teachers to become researchers. They believed research should be conducted by teachers who are involved in educational issues. In meeting the role of the research/school community, the researcher wanted to contribute as a researcher/educator, the development of a toolkit because the Victorian Government had recognised it as the means to identify gifted students, yet they had been tardy in developing the toolkit.

Educational inquiry needs to be directed towards improving reality for the participants and others who are involved. This research intended to improve teachers and students' experiences, by improving identification procedures for underachievement and giftedness. Researchers' theories are ideas, and along with these ideas are values. These evaluative statements are prescriptive and can be described as either good or

bad, right, or wrong. There needs to be understanding between the researcher and the participants in order to collaboratively construct a meaningful reality. The researcher produced a compendium of comments made by the participants during the initial meeting and the interview, with arguments from the participants, for using the toolkit.

Angen (2000) reiterated, researchers need to have written records that will develop persuasive arguments towards careful consideration and articulation of the research question. In this case the question was: 'Will the developed toolkit be a viable method for teachers to identify underachieving gifted students?'. The research question, for every study, determines what methods are appropriate (Conner & Lehman 2012). These methods investigate the content of, and patterns surrounding behaviours, experiences, or what occurs in daily life. Qualitative methods were used for this research, and this included interviewing, surveys, observations of the participants (notes), and analysis of existing texts; data from these formed the basis of the research. Silverman (2005) states 'qualitative research can mean many different things involving a wide range of methods and informed by contrasting models' (p. 14). There is no prescription on how to approach qualitative research. But using qualitative research methodologies can provide the depth of data required to understand the phenomenon under study. Placing the phenomenon in question within the right context, is a crucial step in seeking to explain the phenomenon and to possibly be able to generate theory. Gummesson (2005) explained that the generation of theory is a key feature of qualitative research. The choice of approach should fit the research aims and questions, with Silverman (2005) adding that it should fit both the purpose of the study and the conceptual framework within which the researcher operates.

Leedy and Ormrod (2005) suggested that qualitative researchers are often described as the research instrument because the bulk of the data collection is dependent on their personal involvement in their setting. This research emphasised meaning in context, transferability, adequacy, authenticity, and accountability. As explained by Nomm (2001), accountability referred to researchers 'developing plausible accounts of the motivating meanings that constitute social existence' (p. 5). 'The conceptual framework of research can be analysed at three levels: epistemology, methodology and method'

(Clark 1997, p. 125). The ontology, epistemology and methodology outlined in Table 3, of this research was informed by teachers' experiences and perspectives. The researcher was able to talk directly (one-on-one) with the participants which allowed the researcher to observe the participants' behaviours and reactions as they responded to the various questions listed in the interview schedule.

Within the conceptual framework of this research, interpretivism was used because the researcher has observed and noted teachers' behaviours to better understand what the teachers did as they commented about the implementation of the toolkit and use of the resources. Teachers learning should be effective and connected to their work in helping students learn. Also, within this framework, qualitative measures were used and the methodological perspective (phenomenology and hermeneutics) has informed thematic analysis and evaluative assessment (Table 3). Methodology refers to the general approach to studying research subjects and this approach is guided by the researchers' epistemological stance. Epistemology studies knowledge and involves investigating values, methods, language, and the limits of human knowledge. It also investigates the differences between justified beliefs and opinions. Epistemology is the study of general and fundamental problems, which in this case are:

1. Why are there so many underachieving gifted students?
2. How do teachers identify giftedness in their students?
3. Will the developed toolkit be a viable method for identification?

A conceptual framework is needed to obtain an overall picture of the research. There are many variables that can affect the outcome for research. A conceptual framework includes an independent variable (The toolkit or intervention) and a dependent variable (Increase teacher's ability to recognise giftedness); as well as moderating variables (e.g., professional development), mediating variable (i.e., implementation of resources) and control variables (e.g., time constraints). This is explained further in chapter 7.2, Figure 12. This allowed the researcher to make distinctions and organise ideas.

Table 3: Overview of methodology and conceptual framework

Teacher Agency Theory (TAT)	
Feature	Description
Purpose of research	Evaluate a toolkit's effectiveness. Understand and interpret teacher perspectives on the factors that could impact the successful use of the toolkit
Ontology	Teacher's views, knowledge, interpretations, and experiences. This provides insights which are necessary to understand the participants' role in the research, and their perceptions of the experience.
Epistemology: interpretivism	Teachers will construct knowledge by experiencing the intervention within their classrooms. This study is about human learning. The researcher and the teachers/teachers and their students, are interlocked in an interactive process of talking, listening, recording, reading, and writing.
Methodology	Qualitative research: - The research design of this project was descriptive, interpretive, and utilising qualitative methods. This project investigated teacher perspectives of the toolkit developed for this research. This Intervention Study involved provision of a toolkit of resources to support teachers to recognise giftedness in their classroom, and a brief professional development session to introduce the toolkit.
Methodological Theory	An inductive model of thinking using narrative techniques, where construction or re-construction of knowledge may emerge during the data collection.
Methodological Perspective	Phenomenology and hermeneutics
Methodological Position	Qualitative
Methodological Design	Intervention study. The primary goal of this intervention study is to test the efficacy and viability of the developed toolkit for this research for identification of underachieving gifted students. For this study, the researcher intercedes as part of the design of the study by introducing the intervention (toolkit) and then follows the participants (teachers) later for more data collection.
Data Collection Methods	<u>Survey</u> – This was administered, pre- and post-intervention to establish teacher understanding of giftedness and underachievement <u>Interview</u> – Interviews were undertaken with participants following their trial use of a toolkit (intervention) to support recognition of giftedness. <u>Document Review</u> – De-identified assessment of the resources. There were no school policy documents to review.
Approach to analysis	Thematic analysis and evaluative assessment using methodological perspective; and IBM SPSS Statistics software and Microsoft Excel program – Used to analyse the survey data

Within TAT, the conceptual framework of this research (Table 3) was based on an interpretivist paradigm and within this paradigm lie two philosophical assumptions or methodological perspectives: hermeneutics and phenomenology.

Hermeneutics is a major branch of interpretive philosophy and can be treated as both an underlying philosophy and a specific mode of analysis, while phenomenology explores experiences and perceptions of individuals from their own perspectives (Thomas 2010). Phenomenological strategies are particularly effective at gaining insights into participants thoughts and ideas.

According to Van Manen (1990) there are six steps that make up the research activity in a hermeneutic phenomenological study:

1. Selecting a phenomenon that is of personal value and interest (underachieving gifted students).
2. Exploring real lived experience rather than conceptualising such experience (meeting and interviews with the participants).
3. Reflecting on the essence of that experience through major themes (patterns and themes emerged from the data).
4. Describing the phenomenon by interpretations expressed through writing (interpretation of the data by thesis).
5. Ensuring that a strong pedagogical link to the phenomenon is maintained (Teacher agency theory has guided this thesis with prior, present, and future knowledge about underachieving gifted students).
6. Providing balance to the context of the research by interpreting parts of the data as well as the whole (analysing survey results, and meeting and interview data results and then combining these results to respond to the research question).

(pp. 30–31).

To understand the teacher perspectives in this study ‘hermeneutics provides the philosophical grounding for interpretivism’ (Thomas 2010, p. 296) and a mode of analysis to make sense of the textual data (Addeo 2013), that is ‘interpreting and understanding reality’ (Addeo 2013, p. 11). Incorporated into this research this type of methodology enabled the researcher to document the teachers’ behaviours and interactions about their thoughts and ideas regarding the toolkit. Qualitative research does not necessarily seek generalisable results (Mason 2002), but this study could be applicable to another similar research. This study wanted to provide answers to the research questions and in doing so, obtained results regarding for the viability of the

toolkit. The participants' views were what the researcher relied on for most of the data. It looked at teacher reflections on the resources used, including ideas about the toolkit, after they had used the intervention. Furthermore 'the interpretivist approach can produce a vast amount of detailed information using a small number of people' (O'Donoghue 2007, p. 191). In other words, this interpretivist approach facilitated the gathering of rich teacher reflections on the use of the toolkit.

Using aspects of these four research approaches (phenomenology, hermeneutics, qualitative and quantitative research), enabled triangulation of the data, validating the research further by using a variety of methods. Methodological triangulation aims to 'seek to corroborate one source and method with another ... and to enhance the quality of data' (Mason 2002, p. 33). Triangulation was achieved by using multiple methods, as explained above and by implementing inductive reasoning (Figure 6).

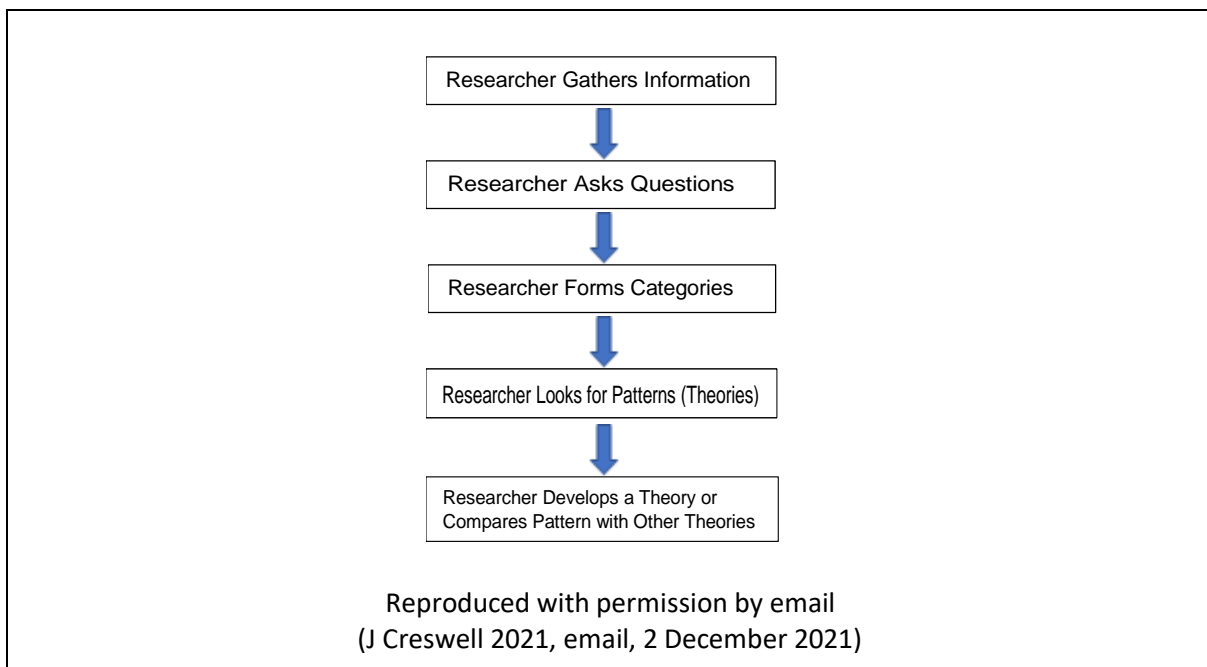


Figure 6: Inductive logic of research in a qualitative study (Creswell 2009)

Inductive reasoning can result in categories and patterns being formed. An inductive approach was deemed appropriate for Teacher Agency Theory because it enabled the researcher to gather meaning from the data in order to identify patterns (Young 2020)

and then draw a general conclusion based on the data (Young 2020). Methodological triangulation has been used to approach this study's research question. Combining qualitative and quantitative research methods is the most common type of triangulation in a single study (Bhandari 2022).

An inductive research approach is used when there is little or no existing literature (Wong 2020) and this is the case for this study. Using Creswell's model (2009), the researcher outlined the process as seen in Figure 6:

1. The researcher gathered information from the surveys, interviews, notes taken by the researcher, literature review, data, and document analysis (completed resources);
2. Asked questions which were included in the interview schedule as well as incidental questions that arose, and then the data was transcribed;
3. Looked for categories from the data collected;
4. Formed patterns from the data, used IBM SPSS Statistics program and Microsoft Excel for survey results;
5. Possibility of the construction or re-construction of knowledge as a result of analysing all the data.

The logic of an inductive approach is about building from the data, to themes, to a generalised theory. This theory is used as a general explanation for the 'behaviours and attitudes, and it may be complete with variables, constructs, and hypotheses' (Creswell 2009, p. 61). Using Creswell's model (2009), the transcripts of the interviews were put into categories, which then revealed patterns amongst the responses. From all the results (surveys, meetings, and interviews), judgements and ideas formed, which created suppositions and theories that were based upon what the participants had stated.

3.5: The participants

To obtain participants in the research, the researcher visited, contacted, emailed, and joined social media groups (Early Childhood Teachers Victoria, Melbourne Teachers, and Victorian Primary Teachers groups). An email was sent to the principals of over 110 schools in the Western suburbs of Melbourne. Of the schools, where teachers had responded, the principal had forwarded the email on, and those who were interested in participating in the research, would then contact the researcher directly. Two principals mentioned knowing experts in the field of giftedness. They separately contacted Oscar

and Penny knowing they were knowledgeable on giftedness, to see if they would like to be involved in this research. To increase validity of this research, Oscar and Penny (pseudonyms) became independent experts for comparison with the participants' responses to the survey.

Finding participants for this research was problematic. Up until July 2019, the total participants obtained numbered only seven. This placed a lot of pressure on the researcher to get more teachers involved in participating. After contacting many more schools, either in person or by email, 12 schools nominated to respond. Of these 12 schools, 7 schools stated they could not participate in the research due to other commitments, which left 5 schools that ended up participating in the study. Some schools mentioned they did not want to be involved in this study because of the word gifted. When asked why, most of them commented they had found parents to be against specifically catering for these individuals or even the opposite, parents wanted their child to be included. Finally, recruitment of the participants took over seven months. Although schools all over Greater Melbourne were approached, all the participants ended up being from schools located within Melbourne's Western suburbs.

3.5.1: *Recruitment of the participants*

The participants were mostly recruited by emailing their school for possible participants, or via their association with another participant. The main data collection methods involved field notes which were taken during the initial meeting and the follow up interviews, the interviews, pre- and post-intervention surveys, and document analysis. This research initially involved 14 teachers who were located within the Western suburbs of Melbourne, but with 3 teachers withdrawing from the research, 11 teachers were fully involved in the study. Every participant had the right to discontinue participation without any negative consequences (Conner & Lehman 2012). The 11 teachers' positions covered one kindergarten teacher, one Grade prep teacher, one Grade 1 teacher, one Grade 2 teacher, two Grade 3 teachers, one Grade 5 teacher, one Grade 6 teacher and three specialist teachers. Experience of the participants

ranged from four to 32 years (Table 4). The names of the teachers are pseudonyms, irrespective of age or sex. This was also the case for Oscar and Penny.

Oscar and Penny were introduced in this study as experts on giftedness and this occurred after the participants had completed the pre-survey. They were recruited as independent experts so that the participants' results could be compared to their responses for both the pre-survey and post-survey. In doing this, the researcher would not be seen as biased, since the experts would provide a clear benchmark. The two experts had very different experiences around giftedness. Oscar was diagnosed as gifted when he was younger and eventually became a secondary teacher; and Penny's work includes conferences and multiple publications on giftedness. Independently of one another, Oscar and Penny contacted the researcher via email and eventually they were given the survey to complete. Once they had completed the survey, they returned the form with notes for the researcher to make the comparison. Oscar and Penny did not make the determinations of the participant groupings; it was based on comparisons made to their survey responses by the researcher. The experts had no contact with the participants or the schools they worked at.

3.5.2: *Participant groups*

The participants formed three distinct groups, with each group containing a range of schools with varying teacher experience (Table 4). It was also acknowledged that there was a range of teacher expertise within each of these groups, and even though the participants were allocated a group, the groups were not overtly labelled. The study aimed to keep the participants interested, and long enough to effectively capture the phenomenon of interest, but not too long to minimise overall participant burden and intrusiveness. Even though there were three participants who did not complete the study, they all received a toolkit. The risk with this study for participant burden was relatively high, since it was time consuming for the teachers to choose and use five different resources from the toolkit and then to implement them in the classroom. To reduce this burden, the teachers were given approximately one school term

Table 4: Participant Information and Professional Development

Participant Name	RANGE OF EXPERIENCE			Professional Development (PD)		
	Years of teaching experience	Current teaching position	Other positions held	PD on under-achievement	PD on giftedness	Should giftedness be formally/ informally identified?
Alan	Group 1*	General classroom	One primary level and overseas	No	No	Yes
Betty	Group 3*	Kindergarten	Pre-school	Yes: Autism and Behavioural problems	No	Yes
Chris	Group 1*	General classroom	Three primary levels	No	No	Yes
Dana	Group 2*	Specialist teacher	Three specialist areas, and general primary	No	No	Yes
Eric	Group 2*	Specialist teacher	Two specialist areas	No	No, I do not think there is a need	Yes
Finn	Group 2*	Specialist teacher	One specialist area and general primary	Yes: Aboriginal education	Yes: Masters unit	Yes/No
Grace	Group 2*	General classroom	General primary levels	Yes: students with learning disabilities	No	Yes
Jayne	Group 1*	General classroom	Four primary levels	Yes: struggling learners No: under-achievement in giftedness	No	Yes
Kerryn	Group 3*	General classroom	All primary levels	No	Yes: many years ago.	Yes
Luke	Group 1*	General classroom	One specialist area and general primary	No	No	Yes
May	Group 2*	General classroom	Two primary levels and overseas	No	No	Yes

Note # Grouping according to years of experience: Group 1* = 0-9 years, Group 2* = 10-19 years and Group 3* = 20+ years

(Approximately 10 weeks) to implement the five resources, one resource every two weeks, giving them ample time to implement the five resources.

Group One: This group of teachers involved four teachers who had little to no experience in gifted education. This group included Alan, Chris, Luke and May. This group of teachers were from three different schools, with two teachers belonging to the same school. The experience of these teachers ranged from four to 10 years (Table 4).

Group Two. My previous research (Lyons 2014) recruited nine teachers who had all signed consent forms stating they could be contacted for future study (for 7 years from 2013). Of this group only one teacher (Betty) became available to participate in the new study. Along with that teacher, four other teachers all became known as Participant Group 2 (Betty, Eric, Finn, Jayne and Kerry). They provided an insight into the impact and effectiveness of the intervention for teachers with elementary knowledge in gifted education (previously identified as not being able to recognise students who are underachieving and gifted). This group of teachers were from three different schools and one kindergarten. The experience of these teachers ranged from four to 32 years.

Group Three. From the entire cohort of participants, only two (Dana and Grace) were listed as possibly being advanced in gifted education by the researcher. This group of two became known as participant Group 3 (Dana and Grace) or advanced group, with both members stating they had high quality practice and procedures in place to recognise gifted students. This group of teachers spoke of various behaviours and characteristics of both underachievement and giftedness which they looked for in their students. Group Three teachers were assigned to this group because of their responses in the initial meeting and pre-survey responses. Their teaching experience ranged between 10 and 15 years (Table 4).

The initial grouping occurred because of the first meeting with the participants, what they said regarding their own experience and prior knowledge, and pre-survey responses. While the participants were grouped according to these responses, their

experience in teaching did not necessarily match the possible assumption that more experience would be accompanied by more knowledge about giftedness and underachievement. As can be seen from the group profiles (Table 4), teaching experience about giftedness and gifted education is not always relative to the number of years teachers are in the profession.

3.5.3: Pseudonyms and participant timeline

For anonymity each participant was given a pseudonym to make sure they could not be identified by either the initial of their name or by their gender (Note: Participant H, I and N withdrew from the study):

Participants: Teacher A: Alan; Teacher B: Betty; Teacher C: Chris; Teacher D: Dana;
Teacher E: Eric; Teacher F: Finn; Teacher G: Grace; Teacher J: Jayne;
Teacher K: Kerryn; Teacher L: Luke; Teacher M: May;

Experts: Teacher O: Oscar and Teacher P: Penny.

To also keep the teacher's identity confidential, their exact years of service are not mentioned. Instead, their years of service are linked to a particular group (Table 4). The other method of describing years of service include a few years (less than 5 years), some years (between 5 and 9 years), several years (between 10 and 19 years) and many years (greater than 20 years).

For this study, the teachers who completed the intervention are known as the participants, and Oscar and Penny as the experts. Oscar and Penny were both recruited in December 2019. All the pseudonyms were in line with ethics for Victoria University and the Education Department. Table 5, indicates when the teachers were recruited (shaded in Red or X), when the teachers implemented the toolkit (shaded in yellow or ✓), and when the post-intervention interview happened (shaded in green or O). Once all the participants were recruited, there were several strategies used to keep the participants motivated and engaged in this study. These strategies can include reimbursement, compensation, and incentives.

Table 5: Timeline of participant involvement

Red = Pre-intervention meeting Yellow = Intervention Green = Post-intervention interview														
Teacher & Month	A	B	C	D	E	F	G	H	I	J	K	L	M	N
May 2019	X	X												
June 2019	✓	✓	X											
July 2019	✓	✓	✓	X	X	X	X							
August 2019	✓	✓	✓	✓	✓	✓	✓							
September 2019	✓	○	✓	✓	✓	✓	✓	X	X	X	X	X	X	X
October 2019	○		○	✓	✓	✓	✓			✓	✓	✓	✓	
November 2019				○	○	○	○			✓	✓	✓	✓	
December 2019										○	○	○	○	

Note# Participants H, I and N decided to withdraw from the research

Reimbursement and compensation are usually the replacement of what could have been lost or what could have been gained (such as contact time with students when implementing the resources, loss of free time if the resources were completed outside school hours, etc.), during the time the participants were involved in the research. Incentives usually are a strong motivational strategy in research. Using research incentives for participation in research is common practice (Australian Government 2017), and for this study, every teacher involved received an individual (one on one) 30 to 45-minute professional development conducted by the researcher, a hardcopy of the toolkit for their participation and a digital copy on completion. Also, another incentive for the participants could have been that they were ‘motivated by the opportunity for self-reflection and assessment that participation promotes’ (Conner & Lehman 2012, p. 103) and being able to identify a possible underachieving gifted student who may have otherwise been overlooked. One of the participants (Alan) wanted to use this research as an opportunity to incorporate the professional development and his participation for his VIT registration. This could also be another possible incentive for participation in research. As alleged by Green et al. (2006), when participants feel they are valued and believe the research is important, the quality of the data appears to be at its highest.

Informed consent procedures were strictly adhered to throughout the study. All potential participants received an email with the 'Information to participants' form (Appendix A) (a hard copy of this form, was also located in the toolkit). Once the teachers agreed to be involved in this research, they were also given a 'Consent for participants involved in research' form (Appendix B) to complete and sign. Informed consent needs to be sought before any study can begin and no teacher was pressured or coerced to be involved. As all the participants were over the age of 18 years, the competency of the person to give consent is presumed. The experts Oscar and Penny, also received the same documents.

3.6: The interview schedule

The questions that were included in the interview schedule, were designed to gather the participants' perspectives and experiences about using the toolkit. These open ended or process questions assisted in lengthier, more thoughtful responses. Although there was a semi-structured interview schedule, the questions were used as a guide because the participant's responses led to other enquiries, for example, what is next? In constructing the interview schedule the researcher included some questions that were specifically needed for the pre-intervention and then again for the post-intervention. These questions invoked responses that facilitated relevant and useful information for this current research. After implementing the toolkit (post-intervention), the participants were asked the pre-intervention questions again, questions that were needed to identify any change in response after implementing the toolkit; as well as the rest of the interview schedule which related specifically to the toolkit, the research question, and sub-questions. Some of the questions in the interview schedule were used to extend the participants' responses from previous questions. The responses of the participants were crucial in order to evaluate the viability of the toolkit.

3.7: Intervention study

The intervention design of this study initially comprised a pre-survey, and a 30 to 45-minute professional development session about the toolkit (the post-survey occurred

after the intervention). A careful, skilled debriefing session (professional development) was an important component of this study; explaining the toolkit, its content and use, including various characteristics and behavioural indicators of underachievement and giftedness, so that 'participants clearly understand the study procedures' (Conner & Lehman 2012, p. 100). The teachers were then provided the toolkit (the intervention) to use whilst in their own classrooms. They were given approximately one term to use the resources and many of the principals allocated time off to explore the toolkit and for implementation of the resources, details an in-depth analysis of the resources). The professional development session was to primarily introduce the toolkit, with a brief introduction to the concepts of giftedness and underachievement. While Group 3 teachers were considered as possibly not needing the same professional development as the other groups, they were introduced to the toolkit and offered the opportunity to engage in professional discussion to obtain their opinion on underachievement and giftedness. These participants received the same professional development as the other participants. Although the researcher had placed Dana and Grace in the advanced group, as it turned out, there were no advanced participants according to Oscar and Penny's survey responses. Oscar and Penny (the experts) did not determine the participant groupings; the grouping was organised by the researcher using the responses provided by the experts. Participants in research are chosen because they can best inform the research questions that are being studied, which in this case are teachers, and therefore can enhance understanding about the toolkit. As mentioned, all the participants were practicing teachers who implemented the toolkit, they responded to an interview schedule in order to provide information about the toolkit and its resources.

3.7.1: *Intervention procedure*

The provision of the toolkit by the researcher to the participants, along with the associated professional development, formed the intervention of this research. The intervention, in this case, was the researcher introducing a toolkit to the participants so that they could implement the toolkit's resources in their classrooms. In other words, the professional development given to the participants individually after they had completed

the pre-survey, included an introduction to the toolkit, the types of resources included in it and how to use them. The resources were made up of characteristics and behaviours of giftedness, and indicators of underachievement. The teachers then trialled the use of the toolkit and its various resources. This was then followed with an interview, where teachers gave feedback as to the developed toolkit's ease of use, its impact on their teaching and whether they thought it was a viable method for identification. Other specific data collection methods in this study included the pre-survey (before implementation of the toolkit) and post-survey (after implementation of the toolkit), notes taken by the researcher and review of documentation (completed resources). The researcher took notes during the initial meeting and the interviews, to help with the rigour of the research. This allowed the researcher to be able to take a more reflective and interpretive position as well as to highlight information that would act as a reminder. The participants were also asked to read the transcripts of their interviews (member checking), to help increase the validity of the study. As specified by Birt et al. (2016), member checking, in qualitative research, is about participant validation. It is also about researchers using member checking to help improve credibility, accuracy, and transferability of a study (Birt et al. 2016, p. 1802).

Paper-and-pen surveys are a low-cost method compared to other approaches, so these were used. Advantages of paper-and-pen methods include: reduced costs, are valid, can be informative, and provide allowances for responses to open-ended questions. This research method was used alongside pre/post-survey, interviews and notes taken by the researcher for 'convergence and corroboration through the use of different data sources and methods' (Bowen 2009, p. 28). Even though there were no policy documents available, document analysis could only happen with the completed resources and reviewing the literature. Analysis of data drew on thematic analysis techniques (Vanclay et al. 2015) along with an evaluative assessment approach. Analysis and interpretation of the data was focused and organised as a result of the research goal. All these methods have increased the transparency of the study.

3.7.2: *Intervention using inductive reasoning*

The data were organised by the researcher into similar categories such as similar experiences, strengths and weaknesses, concerns, and suggestions. These categories were labelled and patterns or relationships identified. Interpretation of this information involved comparing the results with what was expected, that is, looking at the toolkits' strengths or weaknesses; indications of accomplishing the outcome (Would the toolkit be effective in identifying an underachieving gifted student?); and evaluating the use of the toolkit (indications of the teachers' experiences and perspectives).

The qualitative design of this research had an inductive mode of development (Table 4), where the placement of theory was developed and this tended towards the end of the study. In other words, even though there were questions that needed answering, the idea is that 'theory will develop and be shaped through the process of the research' (Creswell 2009, p. 101). Creswell (2009) states that 'researchers need to build a theory by using an inductive model of thinking' (p. 63), incorporating narrative techniques. Narrative techniques were very useful in the fact-finding stage of analysis and were used to acquire a deeper understanding about the underachievement of gifted students, and derive understanding and meaning about the toolkit by studying the impact it had for identification purposes. The inductive design of this research, developed the stories or patterns which resulted in detailed themes from the participants. This anticipates the 'emerging designs ... where the categories develop during the study, rather than pre-determined before the study begins' (Creswell 1994, p. 44). Any philosophical theory concerning the nature of an inductive argument constitutes an epistemological theory (Doyle 2018). This type of logical thinking forms a generalisation based on the participants experiences, observations or even the facts that the researcher knows to be true or false (Doyle 2018). The inductive approach is based on learning from experience and makes generalisations from the specific observations (Young et al. 2020).

3.8: Data collection

The research design of this project was qualitative, descriptive, and interpretive. As Creswell (2009) states 'Qualitative research is interpretive research' (p. 147). Qualitative

research methods can include observations, interviews, surveys, existing documents and so on. There were various research methods involved in this study: pre/post surveys; field notes taken during meeting and interviews, post-intervention interviews (audio recorded); and document analysis. By drawing upon multiple sources of evidence, triangulation of data was possible. Researchers can use several methods of data collection, and engage different groups of participants in one study in order to achieve triangulation. This study involved using three groups of teachers with varying degrees of knowledge on underachievement and giftedness, with all the groups using the same toolkit for identification purposes. The trustworthiness of any qualitative research can be strengthened by triangulation. Brannen (2004) suggests triangulation 'corroborates results from one set of data against those from another type of data' (p. 314). This study had more credibility by involving 'the combination of methodologies in the study of the same phenomenon' (Denzin 1970, p. 291). Triangulation described by Denzin and Lincoln (2005) is 'the combination of multiple methodological practices, empirical materials, perspectives, and observers in a single study is best understood, then, as a strategy that adds rigour, breadth, complexity, richness, and depth to any inquiry' (p. 5). This was achieved by comparing the participants' responses to the experts' responses for both the pre-survey and post-survey; putting all this data into SPSS and Excel programs; and comparing these results against the interview results. This process allowed for triangulation of the data which has added more depth to the results.

Using interviewing as a qualitative method allowed the researcher to connect with their own ontological position by being able to talk interactively with the participants, obtaining an exchange of ideas, knowledge, and findings. This style of interviewing is relatively informal. Even though the conversations were thematic with a purpose for the construction or reconstruction of knowledge, some teachers gave responses that led to additional lines of inquiries. For example, many participants commented that once identification was confirmed, they needed to know what to do next: What do I do now? Where do I go to get information?

3.8.1: *Quantitative data in qualitative research*

This qualitative research draws on statistical information from the survey data. Using quantitative measures in qualitative research is controversial, particularly since the two paradigms imply a distinction between numerical and nonnumerical data (Maxwell 2010). But prominent qualitative researchers such as Becker (1970), Erickson (2007), Hammersley (1992 & 2008), Miles and Huberman (1994) and Schwandt (2007) 'have supported the inclusion of numerical data in qualitative research practices and reports' (Maxwell 2010, p. 476). Maxwell (2010) also stated that 'including simple counts of data make statements such as 'some', 'usually' and 'most' more precise' (p. 475), with Becker (1970) agreeing that numbers do have value to support verbal terms. Schwandt (2007) also commented in his work that 'qualitative studies can and often do make use of quantitative data' (p. 251). Other researchers such as Heath and Street (2008) make an even stronger claim in their research that 'every researcher needs some level of competence with statistics' (pp. 92-93). They concluded that there is a need in qualitative research to use numbers for more detailed analysis. Maxwell (2010) also states 'the use of numbers is a legitimate and valuable strategy for qualitative researchers when it is used as a complement to an overall process orientation to the research' (p. 480).

Maxwell (2010) also implied that using numbers in qualitative research 'can lead to the inference of greater generality' (p. 479). When most of the participants repeatedly make a particular claim, the results do not necessarily conceptualise all the results. Variables within these results could be just as important as the main claim, which is why all the results need to be expressed. Like this research, numbers give a simple count of things which are legitimate and constitute an important way to sort the data (Maxwell 2010). Therefore, numbers do give precision to statements about prevalence, quantity, and essentiality of a particular phenomenon (Becker 1990; Hammersley 2008).

3.8.2: *Pre/Post survey*

The survey used in this research, was compiled by a clinical and licensed school psychologist, Dr. James Spratt (1994). He focused on the evaluation, prevention,

diagnosis, and treatment of many issues including those related to behaviour and giftedness. His survey was created to test the knowledge of teachers on the characteristics of giftedness. The characteristics listed in the survey were created from a combined list of 178 possible characteristics, from a variety of researchers including Gagné (1993), Gagné, Begin and Talbot (1993), Saunders and Espeland (1986), Scott et al. (1992). These lists were acquired by Spratt, not only from the research literature but also from the teachers who taught gifted programs. The end result was a binary choice (true or false), pre- and post-survey for teachers that contained 35 characteristics of giftedness. For this study, the researcher added a further five characteristics to the survey, which represented behaviours attributed to underachieving gifted students. Some of the participants included true/false as a response because they thought it was necessary in order to respond to particular questions. The experts and the researcher also believed there were questions that could be attributable to both. For example, a true/false response would be for – are the first to answer questions (Question 17), and can be disruptive in class (Question 37). Other questions can have a true response – can exhibit low self-esteem (Question 12) and find school boring (Question 35); and a false response would be for – are motivated by rewards (Question 27) and like to be challenged (Question 39). The survey was created to test teacher's knowledge on the characteristics or behaviours of underachievement and giftedness. Teachers' knowledge of gifted students varies greatly (Kronborg 2018). Although Spratt (1994) used his survey to investigate errors made by teachers in his study, the survey for this current study was not used in this way. For this study, the survey was used, not only to find out what the participants knew about underachievement and giftedness, but also for comparative analysis after the implementation of the intervention.

Teachers in all groups completed a pre-intervention and post-intervention survey (Appendix C), which took approximately 10 minutes each. This was implemented in order to clarify the extent of their knowledge and confidence in gifted education. The surveys provided a useful insight about the knowledge that teachers had on giftedness and what changed as a result of using the toolkit. It also provided a way of identifying what teachers learnt as a result of implementing the resources in the toolkit, and a

useful way into discussing the strengths and limitations of the toolkit. Differences between the pre/post surveys also indicated the impact of using the toolkit. IBM SPSS Statistics program was used to compare and calculate the percentage of changes made from pre-survey to post-survey. All of these results were also placed in Microsoft Excel to obtain graphical results for each question (Examples are in Section 5.6.1). Using graphs to display the results, makes understanding and interpreting the data easier.

3.8.3: *Post-intervention interviews*

All 11 teachers were invited to participate in a 30 to 45-minute interview following a period of one term, in which the teachers had the opportunity to trial the toolkit in their classroom. The interviews were semi-structured, and conducted at the education settings where the participants worked or were at an alternative location when requested by the teachers. This helped the participants to feel at ease and enable them to elaborate in greater detail. The interviews consisted of an interview schedule (used as a guide) (Appendix E), which resulted in open-ended answers. This meant the participants were free to respond in their own words and were able to comment further which required some of the questions to be expanded on. These responses were very complex, and resulted in other insights being uncovered. Open-ended questions were used to provide participants with the opportunity to respond in ways that were 'meaningful and culturally salient to the participant; unanticipated by the researcher; rich and explanatory in nature' (Mack et al. 2011, p. 4). The interview schedule was developed to provide data to address the research questions. Often with qualitative research, other discussions can occur during an interview, even with an interview schedule. These discussions can deviate from the main subject area to be studied because qualitative studies can delve into personal interactions while collecting the data. However, using an interview schedule, can reduce the occurrence of excessive divergence.

Face to face interviewing is considered important when considering a phenomenological perspective since it adds to the rich description of communication and data. The researcher, in this instance, has had previous experience with interview strategies and

conduct, and in particular with the open-ended interviews which occurred with the teacher from the previous research (Lyons 2014). The post intervention interview included questions like: Were you able to recognise any student as having high-ability as a result of using the toolkit? Can you talk to me about how easy, or not, the toolkit was to use? What resource gave you different areas to look out for as far as identification? The answers that were obtained, led to some other probe or transitional questions being asked and even led to some unexpected lines of inquiry.

3.9: Data analysis

Data analysis and interpretation is the process of assigning meaning to the collected information and determining the conclusions, significance, and implications of the findings. In this study, data preparation presented its own unique challenges with digital recordings needing to be transcribed, cleaned (names removed) and organised. After the data was checked and prepared, it was ready to be analysed. 'Analytical approaches can be best used to test for complex patterns as well as the structure of daily experiences' (Conner & Lehman 2012). Analysis of the data was informed by two approaches: thematic analysis and evaluative assessment. IBM SPSS Statistics program and Microsoft Excel were used to assist with interpreting the data. (see Section 3.8.2 for more information on these programs).

The participants' results on the survey were compared with Oscar and Penny's (experts in the field of giftedness) responses. This allowed the researcher to remain impartial and not be involved with determining the significance of the results regarding the participants' level of knowledge about giftedness and underachievement. In other words, the results were not biased by the researcher's opinions. This is explained in detail in Chapter Five.

3.9.1: *Thematic analysis*

There are three levels to thematic analysis: coding, themes, and concepts. Thematic analysis highlights the importance or value of identifying, analysing and interpreting patterns of themes within the data. Following the interviews, the recordings and notes

were transcribed. The transcripts were checked and verified by the participants, then arranged according to participant responses and to the themes that emerged. The primary process with coding for the participant responses are explained in Chapter Six. Table 15 and Table 16 in Chapter Six, display the participant responses to questions that were asked pre-intervention and post-intervention. The tables show the impact the toolkit had on the participants. These themes came from teachers' ideas or beliefs (teacher agency) on underachievement and giftedness and what changed as a result of using the toolkit, or if the toolkit had its intended effect (i.e., Did the participants recognise a gifted student they had not identified before implementing the toolkit?). Data analysis involves intellectual processes that play a role in the way data is analysed. These processes include comprehension, synthesising, and theorising (Langden 2009). This means researchers need to understand the data (by learning about what is going on); sifting and putting the pieces together; and sorting the data by building categories thematically. Carrying out this process, the researcher manually examined the notes and observations, was used to organise, classify, and arrange information according to themes or relationships that occurred within the data. Although the researcher used this analytic approach, quantification of data was used for the surveys. This data was collated in table form for easy comparison, and not as conceptual models or maps as with content analysis. This information was expected to show to what extent the teachers within this research were able to recognise underachieving gifted students by using the toolkit.

3.9.2: *IBM SPSS Statistics data editor (SPSS)*

IBM SPSS Statistics program is a comprehensive tool used to delve deeper into any data set. This program can be used in education, healthcare, government, market research and retail. The developer of the program (IBM corporation) state it can decipher and throw light on the whole analytical process 'from planning to data collection to analysis, reporting and deployment' (IBM SPSS 2020 Introduction, para. 1). SPSS originally stood for Statistical Package for the Social Sciences, but later changed to Statistical Product and Service Solutions. It is a widely used program where researchers can quickly understand 'large and complex data sets, that help ensure high

accuracy' (IBM SPSS 2020, Description, para. 4). Using this program would result in researchers having the ability to make quality decisions. SPSS allows researchers to analyse and better understand the data, and solve research problems through the use of the program. It enables researchers and others to organise and 'extract actionable insights from its data' (IBM SPSS 2020, Predictive analytics, para. 3).

This program (SPSS) was used to compare the pre-survey responses against the post-survey responses. It allowed for statistical analysis of the surveys, giving accurate percentage results which have been tabulated as the survey findings (Chapter Six: Table 17). SPSS allows for direct access to Microsoft Excel, which resulted in the visual representations displayed as graphs (Section 5.6.1: Figures 6 to 10). Through this, both programs have created a visual image of the participants' responses which can be easily accessed, making decisions easier and reports more accurate. Even though SPSS is usually used for larger data sets, this program can also be used for smaller samples (as with this research) and for rare occurrence analysis; 'It is suitable for projects of all sizes and levels of complexity' (IBM SPSS 2020, Why IBM SPSS, para. 2).

3.9.3: *Evaluative assessment*

An evaluative assessment was used to analyse the teachers' satisfaction with the toolkit. This included, teachers evaluating components within the toolkit according to aspects such as manageability, validity, and relevance. Evaluation does not equal assessment, even though assessment is an element that goes into evaluation (Crompton 1999). Evaluation for this study is the collection, analysis, and interpretation of information regarding any aspect of education which judges its effectiveness, its efficacy, and any other outcomes it may have. One aspect of evaluation is the allowance for the unexpected. Above all an evaluation is a designed and purposeful enquiry which can be opened to comment and debate (Crompton 1999). There are three factors involved in the evaluative process for qualitative research: effectiveness, efficiency, and relevance. For this study, effectiveness will identify how useful the toolkit will be for teachers (identification of giftedness); Efficiency looks at the toolkits' ease of

use (what the teachers think of the toolkit); and relevance looks at the applicability and appropriateness to the intended users (Crompton 1999). Successfully integrating the toolkit into the teachers' programs was of course dependent on relevance. Most teachers suggested that they became involved in this research because of their interest in gifted education or they believed they had a gifted student in their classroom.

There are two types of evaluations: formative and summative. Qualitative research can use both types of evaluations. Evaluative assessments can be used at any stage of the research, from pre-implementation, through planning, design, and implementation (Vanclay et al. 2015). This study used both methods to evaluate the effectiveness of the toolkit. Formative assessments happen during the learning process, and summative assessments happen at the end of learning (outcome). For this study, formative evaluations included the surveys (use of IBM SPSS program), and summative evaluations were used for the observations (field notes taken during the initial meeting and interviews) and teacher responses, to determine what the teachers knew about giftedness and underachievement, and what they had learned. Summative assessment determined what knowledge the participants gained after implementing the toolkit. In other words, summative assessment can determine the effectiveness of the toolkit and whether or not it is an appropriate method for teachers to recognise giftedness (Davies 2010).

This evaluation methodology was able to ascertain how good, valuable, or important the toolkit is, rather than just what happened as a result of its implementation and whether it had the intended effect. This also included an evaluation of the completed resources the participants gave to the researcher. Davidson (2005) concluded that evaluation involves a) descriptive information and b) evaluative inferences. In other words, evaluation involves what information should be collected and 'how valuable or important something is' (Davidson 2005, p. xii). Evaluation of the toolkit would be considered by the teachers' ideas and thoughts, the results of the survey, and related to such aspects as manageability, validity, and relevance. All three data collection sources were influenced by an evaluative assessment (surveys, interviews, and document analysis), since they

were designed to elicit and show teacher's appraisal and assessment of the resources in the toolkit. This has been followed up in the analysis of the findings in chapters five and six, and in the discussions in chapter seven.

3.9.4: *Review of documents*

During the initial meeting and the interview, teachers were invited to share any de-identified and relevant documents that supported their discussion. Many participants gave the researcher completed resource sheets and written observations they wanted to share (recorded observations as it happened, is a strategy to effectively capture behaviour). The documents they shared, provided examples of ways in which teachers were able/or not able to recognise giftedness in students in their classrooms.

Document analysis involved skimming (superficial examination), reading (thorough examination), interpretation, and organisation. While there were no policy documents available from the participants to investigate, the participants gave the researcher completed resources from the toolkit. The analysis of these documents yielded data that was organised into categories, and similar examples, specifically through thematic analysis (Labuschagne 2003). These documents supplemented the data gained through the interviews and surveys.

3.10: Ethics in research

Conducting research includes considerations regarding ethics, validity, reliability, trustworthiness, generalisability, and limitations (Leedy & Ormrod 2015). For this research to be informative, it needed to be credible, dependable, confirmable, and possibly even transferable. The pre- and post-survey responses allowed for reliability and validity to be addressed although they are associated with quantitative research. This research was able to do this because of applying IBM SPSS program; this meant also this study would be replicable. Ethics in educational research involves the relationship between the researcher and the people they study. Researchers are guided by ethical values and respect the connection between themselves and their participants. Researchers need to make judgements and take responsibility for their conduct in

research 'It is ultimately the researcher who is answerable for ethical acceptability of their research' (Clark 1997, p. 164). All ethical practice through Victoria University is guided by the National Health and Medical Research Council and is serviced by the Victoria University Human Research Ethics Committees. This research was guided by ethical practice and reflected such values as:

- respect for human beings (including respect for privacy, confidentiality and cultural sensitivities);
- research merit and integrity (research must be worthwhile, aims of research must be met and justified, informed consent, findings to be accurately and responsibly reported);
- justice (benefits of research showing value and worthiness back to the school and community);
- and beneficence (maximise benefits and minimise possible harms).

Following these values helped ensure that the development and conduct of this research was safe, respectful, responsible and of a high quality. All these principles of ethical research applied to the interviews, observations by the teachers, accessing of pedagogical documents as well as information which was published or unpublished. All information was kept securely on the Victoria University intranet (R-Drive) with only the researcher and supervisors having access.

There are many ethical dilemmas that may arise in research relationships. These can arise because of communication problems, misunderstandings, misconceptions, and power relationships. There may be a power issue with reinterviewing the previous participants, and personal experience and insider information can pose a potential bias to the production of viable data. This was mediated by being open to what was being discussed, facilitating communication (listening to and understanding their participants' perspectives), trustworthiness, diffusing any anger and staying calm.

Trustworthiness involves four key areas: credibility, transferability, dependability, and confirmability (Lincoln & Guba 1985). The inclusion of these four areas is evident in this research with the confidence of the researcher in the research design, the participants, and its purpose. Credibility is fundamental to the purpose of testing, but credibility is also important in qualitative research, where it can be demonstrated through detailed

analysis and description of the interviews (Langden 2009). Credibility involves two factors: internal credibility and external credibility. For this research, internal credibility was concerned with whether the intervention would make any difference, and external credibility was concerned with how far the results could be expanded to the population. Data was collected from the teachers during the post interview, where the teachers responded to the survey and part of the interview schedule. One way of achieving credibility, was to have the transcripts verified by the participants. The researcher has certain responsibilities: they need to prepare for the interview; interview the participants thoroughly; and document the interview (Bergold & Thomas 2012; Mack et al 2011). Transferability could be established with the research findings being able to be applicable to another study. Lincoln and Guba (1985) found it is the responsibility of the researcher to 'provide the data base that makes transferability judgements possible on the part of potential appliers' (p. 316). Providing an extensive description of this study, has allowed potential researchers the ability to apply the results (or process) of this study to their own study.

This research used qualitative practices, which involved inquiry that investigated people's lives, experiences, and behaviours. That is, the researcher went into schools to investigate behaviours, attitudes, values, beliefs of the teachers, in order to describe 'What was happening?', to explain 'Why things are the way they are?', and to predict 'How things might be?'. The teachers were given the 'Information to participants form' (Appendix A) to read, and a 'consent form for participants' (Appendix B) to sign prior to participation. Every participant was explained what was needed of them, what they had to undertake, and this included answering questions in a survey prior to and after the intervention, using the toolkit and then being involved in a post intervention interview. The participants were all told the toolkit was theirs to keep and a digital version would be available for them at the end of the research.

Confidentiality was applied to the transcripts through use of pseudonyms and removal of any identifying information. All information obtained by the researcher was to remain confidential with no identifiable information and participants were able to withdraw from

the project at any time, as was the case with teachers H, I and N. This research was considered low risk because the target population was qualified teachers who were over the age of 18 years with intrusiveness of the project being minimal. For example, the researcher was not observing teacher practice, not asking personal questions, not observing teacher practice, and not imposing on too much teaching time. Participants were able to access the support of a Victoria University counsellor for any distress that might be experienced and any psychological risks were minimised by talking and assuring the participant that all data obtained would be de-identified and allowing them to withdraw from the project at any time, if necessary.

Ethical considerations vary depending on particular research designs and data gathering methods. There are five general ethical principles which have significance for the conduct of educational research: beneficence, respect, justice, truth, and freedom (NHMRC 2018). Beneficence minimised the harm to the participants by allowing them to complete the study within a reasonable time frame. Respect: was shown to the participants by listening to what they had to say and report, regardless of what was said. Justice was observed in that the researcher was fair to all the participants, including there being no consequences for the participants who withdrew from the study. All the participants got to keep the toolkit irrespective of whether they wanted to continue or withdraw from the study. The participants were reminded during the course of the research, that there were no right or wrong responses. In respect of truth, the researcher has endeavoured to relay the truth for the study, describing what the participants have stated and what the results have shown. Finally, regarding freedom, all the participants were able to withdraw from the study at any time whether or not they had completed it. Many participants were also given extra time to implement the resources if they needed it. These five general ethical principles are all used to guide researchers in deciding what to do.

In educational research these principles are further explored with very specific principles: justification, informed consent, deception, privacy, and confidentiality. While

informed consent and confidentiality have been discussed, Clark (1997) explained the other principles in further detail:

1. Justification requires the research to obtain worthwhile knowledge that can contribute to improved educational outcomes and human development;
2. Informed consent requires participants to know what the research is about, what is expected of them and to agree to participate;
3. Deception can only be justified where the researcher is able to demonstrate that worthwhile knowledge will be generated from deception instead of obtaining informed consent, and there is no harm to the participants and the privacy of the participants remain intact;
4. Privacy is related to the observational interaction between the researcher and the participant;
5. Confidentiality is about keeping information gained as privileged.

Confidentiality can only happen when the information that is received, is made anonymous before being passed on to third parties. 'The disclosure of unauthorised private information is a breach of a person's privacy and violates respect for persons' (Clark 1997, p. 161). There is also a cultural challenge to educational research. This has become 'widespread and forceful, so much so, that it cannot be ignored by those investigating people who are from other cultures' (Clark 1997, p. 135). Issues of confidentiality of data, and data protection were addressed as they became apparent. For example, the teachers kept all identifiable information regarding their students and only passed on to the researcher de-identified information.

For this study, the roles, tasks, and obligations for the researcher were not limited to, but included:

- Ethics approval (approval granted: HRE18-212);
- Education departmental approval (approval granted: 2018_003897);
- Recruitment;
- Obtaining participant informed consent;
- Recording interviews and asking follow up questions;
- Observing and documenting participants' behaviours within the interview;
- Verification of transcripts with participants (recordings are accurate and represents their voice);
- Analysing, interpreting, and securing the data;
- and forming a theory.

Even though this study was limited to the Western suburbs of Melbourne, the resulting data could be transferable and therefore representative of other regions. It is very likely the results are extended to other populations because the underachievement of gifted

students is a problem. All of this becomes important in a variety of ways, as the processes listed in Chapter 3, impact on the credibility, trustworthiness, and transferability of knowledge.

3.11: Measurement of outcomes

To show that the expected outcomes could be met, data was collected from the pre- and post-survey (Appendix C) and an interview schedule (Appendix E). The pre/post survey was expected to show that teachers would increase their ability to identify giftedness in their students. This was measured by comparing the expert's responses to the participants responses given in both the pre-survey and post-survey; then by placing these results in SPSS and Excel programs. Teachers were not asked to decide if a student was gifted; they were asked to decide if any student exhibited any of the characteristics and indicators of underachievement and giftedness. By using the toolkit, the results could have enabled teachers to recommend students for further screening. It is significant here to remember that the Education and Training Committee claim there is an average of at least 'one gifted child per classroom' (ETC 2012a, p. 6).

There are also anticipated outcomes which are expected as the result of the participant's use of the toolkit and beyond the research:

- The developed toolkit would be a viable method for teachers to recognise an underachieving gifted student.
- Teachers would increase their abilities to recognise underachievement by using the toolkit.
- Teachers would increase their abilities to recognise giftedness by using the toolkit.
- Teachers would increase their abilities to recognise underachieving gifted students by using the toolkit.
- The number of students appropriately identified will reflect at least 10 to 15% of the total school population.
- These students would be referred for further gifted screening.
- These students would then be placed in gifted programs, or at least have their abilities addressed.

3.12: Summary

Ethical consideration was at the forefront of this research. Each participant provided their own beliefs and ideas of what their agency is on giftedness. Teacher's agency has produced an array of competing views and accounts of the participant's views and

knowledge about underachievement in gifted students. The theoretical and conceptual frameworks used in this research have guided this study's path and have produced meaningful and insightful information. These frameworks have not only provided direction for this research, but have ensured extension of knowledge by promoting and encouraging inspiration and motivation in the participants and the researcher.

The next chapter investigates the developed toolkit and its resources.

Chapter Four: The toolkit and its resources

'Toolkits are proving to be desirable, accessible, and useful but they lack scientific rigour with respect to the evidence underlying their content, and evaluation of their overall effectiveness.'

(Barac et al. 2014, p. 7).

4.1: Introduction to the toolkit

All schools should have procedures and policies in place to identify all the various types of giftedness in their students. According to America's National Association for Gifted Children (NAGC) (2022) identification of students for gifted programs should include multiple assessments. These assessments can include objective and subjective measures. For this current study the researcher has compiled and edited subjective measures such as, self, peer, parent, and teacher resources, in the format of checklists, rating scales, questionnaires and observational charts, to form a toolkit. These resources can be used by teachers to informally identify various types of gifted students in their classroom. The NAGC (2008) asserts that observations by teachers of students' behaviours, for example, using rating scales can be collated and 'provide useful supplemental data, particularly on students whose talents may not be evident' (p. 3).

There are many resources in libraries and over the internet that teachers can access to identify giftedness. Most of the participants did not have any resources to use for recognition of giftedness. An early childhood educator who participated in this study had seen the Brigance test, which is a screening tool used for identification of giftedness in children aged 3 to 5 years (pre-kindergarten, kindergarten, and prep year levels). This testing compendium covers a variety of curriculum topics using a series of 12 assessments. The Brigance test is used to compare each child's results with their peers, which is necessary with most of the resources in the toolkit. None of the other participants had a clear understanding of what to do if they thought they had a gifted student – that is, they were not aware of the person in their school whom they could contact or they did not know they could refer a student for further assessment. From a survey in New Zealand on early years' education, Margrain and Farquhar (2012) reported even when there was no direct guidance on gifted education, teachers were

not made aware of their responsibilities, which resulted in gifted students not being supported. Their study found amongst their survey respondents that 'there is a need to identify and provide the special support to gifted children' (Margrain & Farquhar 2012, p. 1).

However, in saying that, the Victorian Department of Education and Training (DET) (2021) released an online toolkit two years after this current research had implemented a toolkit. Not only has the DET (2021) changed the wording to high-ability and removed giftedness, they have also included tackling underachievement in high-ability students. The DET (2021) suggest that teachers who use their high-ability toolkit should become familiar with each section:

1. Defining high-ability
2. Characteristics of high-ability
3. Identifying high-ability
4. Tackling underachievement
5. Supporting the social-emotional needs of high-ability
6. Differentiation
7. Student excellence program

(DET 2021, High-ability toolkit, para. 1)

This online toolkit requires teachers to become aware of the definition of high-ability (Section 1), its identifying characteristics (Section 2), recognising high-ability (Section 3), how to tackle underachievement (Section 4), how to support social-emotional needs (Section 5), differentiation (Section 6) and a program aimed at high-ability students (Student excellence program) (Section 7). This toolkit recommends using Neihart and Betts' (2010) subjective measure for identification in Section 3. The DET's (2021) online toolkit caters for the primary and secondary sectors, and provides support for teachers on identification and how to support high-ability students.

A problem associated with underachieving gifted students, is that methods for identification have not been properly studied. While many individual resources that have been used in studies for identification of gifted students, no toolkits have been studied which cover the many aspects of giftedness including underachievers, twice-exceptional students, age-appropriate measures and so on. In February 2022, the Department of

Education and Training tendered out the high-ability toolkit to be updated and expanded.

In Australia there have been barriers to gifted education, including the phenomenon of the 'tall poppy syndrome.' This syndrome is well known in the Australian society whereby gifted or high ability students are criticised for 'standing out' or belittled; viewed as being elitist, as well as teachers having their own 'opposition to gifted education' (Walsh & Jolly 2018, p. 83). With no specific reference to the needs of gifted students in the *Australian Professional Standards for Teachers* (AITSL 2018), teachers do not need to know and understand about the needs of gifted students.

4.2: Researcher's toolkit (Appendix D)

Lyons' toolkit took more than a year to compile and edit (some resources needed editing due to wording errors) from the beginning of 2018 to early 2019. Being able to achieve this required sufficient time in the research process to explore these resources. The toolkit contains information on how to score and evaluate the resources, the contents (information about the resources), the resources, other types of resources, and a section for teachers on where to find more information and useable resources for gifted and talented students.

Today there are more and more journals and other publications, containing articles on gifted education. Choosing which resources were included and which ones were overlooked for the toolkit, became a complex and involved process. The resources which were eventually chosen to be included in the toolkit were selected because of the authors' involvement in gifted education, their previous studies, ideas, and thoughts on what constituted a gifted student and the findings and results they obtained. Most of the authors were experts in the field on gifted education, whether they were psychologists, professors, doctors, or early childhood, primary or secondary educators. All the resources in the toolkit are age specific but teachers can obtain subject specific resources if needed. Ireland's National Council for Curriculum and Assessment (NCCA) (2007) list 14 subject specific resources covering the fields of: mathematics; language

and foreign languages; music; technologies; information technologies; history; science; geography; drama; art; physical education; social, personal and health education; and religious education. The Australian Association for the Education of the Gifted and Talented (AAEGT) (2021), list links to websites containing resources for teachers to implement in their classrooms. Also, located in the toolkit are links to websites that contain general subject resources for teachers to use. This information is in Appendix D: Gifted and talented information and resources for teachers.

While the resources in the toolkit are not subject specific, a lot of them do cover many aspects of the curriculum, for example, language and mathematics. Australian developed resources such as, Hodge (2013) and Hodge and Kemp (2000) for early years and Merrick (2004) for primary and secondary years, are included in the toolkit. However, most states and territories in Australia list resources which have been sourced internationally. This was one reason why resources were sourced from all around the world. An informed selection was made from available resources on the internet and published work. The researcher examined the content for different types of giftedness, whether they were simplified for the user or comprehensive. This created a range of selected resources that presented different aspects of giftedness, and different approaches to identification and specifications of giftedness. Every teacher involved in this study was given a toolkit for their part in this research.

The toolkit comprises over 30 different resources to help teachers identify giftedness and underachievement in their students. It is made up of an information sheet describing what the research is about and what is expected of the teachers; a quick reference guide; an appendix for each resource which describes the what, who and how to use a particular resource; the resources; additional resources (including observational charts, classroom strategies, and more); and references for every resource in the toolkit. While most of the resources can be used with the entire class for comparative purposes, there are resources in the toolkit that can be used with either multiple students or with an individual. For example, parent/teacher nomination forms and self-nomination forms can be used for individual students. The self-nomination

forms can also be used with the whole class. Teacher nomination forms, include Merrick (2004) for primary and secondary students, and Merrick and Targett (2004a) for early childhood students. These two resources can be used when a teacher wants to nominate a student as possibly being gifted.

Participating teachers were asked to choose up to 5 resources (depending on their needs) from checklists, questionnaires, and rating scales (Table 6), to use in their classrooms. All teachers were asked to use the Victorian Government resource (various age groups), Silverman 2 rating scale or the Ministry of Education (TKI) resource (early childhood), as they were the resources that were recommended for Victorian teachers to use. The remaining three to four resources were chosen in relation to each teacher's needs. The toolkits' resources covered early childhood, primary and secondary years (ages from kindergarten to Year 12). Covering the years from K-12 there are various resources to identify students who are underachieving, gifted students who are underachieving, gifted students and gifted students with special needs. Addressing what resources would be suitable for teachers to use on children up to six years of age, as well as who would be authorised to decide on children's giftedness, needed to be considered. This resulted in rating scales and checklists being included in the toolkit for this age group. The toolkit also contains observational charts, parent, peer, and self-nomination forms (Table 6).

All these educational resources can be used alongside one another to reinforce the identification of a possibly gifted student. Although intelligence tests, the formal method for the identification of students with learning disabilities and for giftedness, have been used for a long time, they have been criticised for not appropriately identifying gifted students who underachieve and who come from diverse backgrounds (Cillessen & Bellmore 1999). Other methods of identification, such as achievement tests, parent, teacher, peer, and self-nomination forms, should be used alongside intelligence tests in order to identify gifted children in regular classrooms.

Table 6: The Toolkit

RESOURCE NAME and YEAR	TYPE	RESOURCE USAGE	AGE GROUP
ACT policy (2010)	Checklist	Teacher nomination form	various ages
Allan (2002)	Rating scale	Educator nomination form	3-5 years
CCEA & NCCA (2015)	Checklist	Teacher nomination form	various ages
Clark (2008)	Checklist	Teacher nomination form	various ages
Eyre (1997)	Checklist	Teacher nomination form	various ages
Gittman & Koster (2000)	Rating scale	Teacher nomination form	various ages
Heacox (2012)	Checklist	Teacher nomination form	various ages
Hodge & Kemp (2000)	Checklist	Teacher/Parent form	various ages
Kaya (2013)	Written exercise	Peer nomination form	various ages
McAlpine & Reid (1996)	Rating scale	Teacher nomination form	various ages
Merrick (2004)	Checklist	Teacher nomination form	various ages
Merrick & Targett (2004)	Checklist	Teacher nomination form	3 – 6 years
Minnesota Council (2018)	Checklist	Parent/Teacher form	various ages
Montgomery (1996)	Rating scale	Teacher nomination form	various ages
Montgomery 1,2,3 (2011)	Checklists 1&2, Questionnaire 3	Parent questionnaire	various ages
Morrissey (2012)	Checklist	Teacher nomination form	3 – 8 years
Murphy (2004)	Written exercise	Peer nomination form	5 – 8 years
Murphy & Breen (2015)	Checklist	Teacher nomination form	3 – 8 years
NSW 1 policy document (2004)	Checklist	Teacher nomination form	various ages
NSW 2 policy document	Checklist	Parent/Teacher form	various ages
NSW 3 policy document	Checklist	Parent nomination form	various ages
New Zealand TKI Ministry (n.d.)	Written exercise	Teacher nomination form	3 – 6 years
NT policy document (2015)	Checklist	Teacher nomination form	various ages
Okoye, Henning & Benson (2019)	Checklist	Teacher nomination form	various ages
Porter (2011)	Checklist	Parent/Teacher form	3 – 17 years
Qld. Dept. (2011)	Checklist	Teacher nomination form	various ages
Reis & McCoach (2002)	Checklist	Teacher nomination form	various ages
Rimm (2008)	Checklist	Teacher nomination form	various ages
Sayler (2016)	Rating scale	Parent nomination form	various ages
Self-nomination (2019)	Rating scale	Student nomination form	8 – 17 years
Silverman 1 (1986)	Checklist	Parent/Teacher form	3 – 8 years
Silverman 2 (1993)	Rating scale	Teacher nomination form	various ages
Silverman 3 (2019)	Checklist	Parent/Teacher form	various ages
Smutny (2004)	Questionnaire	Parent/Teacher form	various ages
Spratt (1994)	Checklist	Teacher nomination form	various ages
Vic Govt. (2018)	Checklist	Teacher nomination form	various ages
WA Govt. (2018)	Checklist	Teacher nomination form	various ages
ADDITIONAL RESOURCES	TYPE	RESOURCE USE	AGE GROUP
CCEA & NCCA	Written exercise	T/U Individual record sheet	various ages
CCEA & NCCA	Written exercise	T/U Observational chart	various ages
CCEA & NCCA	Checklist	T/U Classroom strategy	various ages
CCEA & NCCA	Checklist	T/U G&T Audit form	various ages
Ruf (2009)	Checklist	Parent nomination form	0 – 8 years
What's next?	Information	Teacher information	Not applicable
Note# T/U = Teacher Use			

Using multiple identification instruments to identify gifted students can give more accurate results. As explained by Davis and Rimm (2004; 2011) 'peers are extraordinarily good at nominating each other for gifted and talented programs' (p. 78). In other words, peer nomination forms provide relevant feedback to teachers because the results are generated by their peers. Advantages of peer nomination forms include: classmates have the chance to observe and note their classmates' intellectual capability and academic performance (Richert, Alvino & McDonnell 1982); peer nomination forms are the most adequate technique for detecting leaders and creative students); the number of participants is large; they encourage student responsibility and judgment skills; and they are good for identifying gifted and talented students from different cultures (Tongue & Sperling 1976).

Self-nomination forms can be an effective way of obtaining information about students' strengths and weaknesses. Self-nomination forms can provide insights into student's self-concept, their self-esteem, attitudes, and values. Writing can be challenging at any age, especially when writing about oneself, but researchers have found that primary aged children are able to accurately assess their own competencies in various domains (Malloy et al. 1996). Massé and Gagné (1996) recommend that students should be able to self-nominate 'when using peer-nomination forms' (p. 29).

Peer and self-nomination forms do have limits: they contain specific content; they can permit biases in judgements, that is, students may have an unrealistic appraisal of their own abilities, and so on. Nonetheless, Gagné (1993) believed peer nomination forms give an accurate account for academic talents because they can be compared to school grades, whereas all other information obtained from these forms may not be entirely accurate.

4.3: Resources

When teachers have varying views and knowledge on what constitutes a gifted student, it can result in students not being recognised or identified for gifted programs. Using subjective measures can be vital for potential identification of gifted students. Most of

the resources listed in the toolkit are subjective measures which are made up of characteristics, behaviours and indicators of giftedness and underachievement. These resources are formatted as either checklists, rating scales, questionnaires, parent and peer nomination forms, observational charts, or self-nomination forms (Table 6).

Checklists can be used to record observations of an individual, group or class; and in this case, to record observations of the students' behaviours in the participants classroom. Rating scales allow teachers to identify specific behaviours and skills; and allow teachers to set goals and improve performance in their students. Efficacious rating scales use descriptors such as always, usually, sometimes, and never. This allows for identifying a more precise level of performance or how often a behaviour is displayed. Subjective descriptors such as fair, good, or excellent, in a rating scale does not provide enough information and are therefore usually less effective. These resources do require the assessor's judgement, and this can create different outcomes from one assessor to another. The following resources can all be found in Appendix D.

4.3.1: Checklists

In education, checklists can be used as assessment tools. They can be used to identify individuals who have various skills, attitudes, characteristics, behaviours for evaluation purposes. When these are categorised into groups of comparable features 'the similarities and differences can be easily and clearly seen' (Brindhamani & Marisamy 2016, p. 9). For this study the comparable features are the characteristics and behaviours of giftedness. Comparing the checklist results, can pinpoint a student whose behaviour may have otherwise been difficult to interpret or even overlooked. The results aim to assist teachers in understanding the differences between students. Checklists can give reliable predictions to help solve issues (Brindhamani & Marisamy 2016).

ACT policy document resource:

The Australian Capital Territory (ACT) policy document checklist was developed by Neihart and Betts (2010). The ACT document was developed especially for gifted underachievers, and takes the form of six different profiles for the gifted and talented:

Type 1: The Successful; Type 2: The Creative; Type 3: The Underground; Type 4: The at Risk; Type 5: The Twice/Multi Exceptional; and Type 6: The Autonomous (ACTET 2014). The first five profiles are particularly useful for understanding gifted underachievers, with the sixth profile being where researchers and teachers would hope all gifted students would be. Together, these profiles are a useful way to understand the feelings, behaviours and needs of all gifted students. This checklist can be used on various age groups. This resource is comprehensive and would be time consuming for the participants to have completed on all of their students. No participant chose this resource. However, this resource can be used to further clarify individually if a student may be gifted. All the information a teacher can gather about a student can be used to get the student into the right programs suited to their abilities. This is also the resource the Victorian Government (DET 2021) now recommends teachers to use for identification purposes.

CCEA & NCCA resource:

Northern Ireland's Council for the Curriculum, Examinations and Assessments (CCEA) and Ireland's National Council for Curriculum and Assessment (NCCA) teacher nomination form (2015) was a product of a collaborative approach which used 43 different characteristics for identification of gifted and talented students. These characteristics include, may prefer to talk rather than write; finds practising skills, which have already been mastered, as futile; can be more interested in current affairs, and so on. This resource is used for teacher nomination of giftedness and is an easy resource for teachers to use. It can be used on various age groups. This resource was used by one participant (Kerryn).

Clark's resource:

Clark (2008) adapted her checklist from the basic traits of giftedness that are listed in Table 7. She believed gifted individuals possess many various traits but these traits will not be in every area (cognitive, creative, affective, or behavioural). Cognitive traits include intellectual, emotional and attitude factors (e.g., intellectual curiosity,

critical thinking); Creative traits include being artistic, flexible, imaginative, innovative, inventive, and resourceful (e.g., having wide interests, a keen sense of humour); Affective traits include mood, feelings, and attitudes (e.g., sense of justice, frustration); and Behavioural traits relate to social, psychological, and emotional factors (e.g., boundless enthusiasm, perseverance).

Table 7: Giftedness Traits (Clark 2008)

Cognitive	Creative	Affective	Behavioural
Keen power of abstraction	Creativeness and inventiveness	Unusual emotional depth and intensity	Spontaneity
Interest in problem-solving and applying concepts	Keen sense of humour	Sensitivity or empathy to the feelings of others	Boundless enthusiasm
Voracious and early reader	Ability for fantasy	High expectations of self and others, often leading to feelings of frustration	Intensely focused on passions, resists changing activities when engrossed in own interests
Large vocabulary	Openness to stimuli, wide interests	Heightened self-awareness, accompanied by feelings of being different	Highly energetic; needs little sleep or down time
Intellectual curiosity	Intuitiveness	Easily wounded, need for emotional support	Constantly questions
Power of critical thinking, scepticism, self-criticism	Flexibility	Need for consistency between abstract values and personal actions	Insatiable curiosity
Persistent, goal-directed behaviour	Independence in attitude and social behaviour	Advanced levels of moral judgement	Impulsive, eager and spirited
Independence in work and study	Self-acceptance and unconcern for social norms	Idealism and sense of justice	Perseverance; strong determination in areas of importance
Diversity of interests and abilities	Radicalism		High levels of frustration; particularly when having difficulty meeting standards of performance (either imposed by self or others)
	Aesthetic and moral commitment to self-selected work		Volatile temper, especially related to perceptions of failure
			Non-stop talking/ chattering

As explained by Clark (2008), gifted students have many traits which they may have in common with other gifted students but they are not the same. In other words, the traits one gifted student has, may not be the same as another. For example: one gifted student may have a very strong determination in areas of importance, while another gifted student may not be as determined but has an insatiable curiosity. This resource can be used on various age groups. No participant implemented this resource.

Eyre's resource:

The Nebraska Starry night individual record sheet (Eyre 1997, pp. 32-33) is a checklist which is based on observations rather than tests and where children should be observed over a designated period, e.g., a month, a term, a semester. To use this procedure, teachers need to mark an 'X' in the relevant area when that particular behaviour is seen. This resource can be used on various age groups.

There are 18 behaviour patterns that can be observed in Eyre's 1997, Nebraska Starry Night record sheet; and the outcome of using this record sheet is to place the child into one of four categories: the verbal knowing independent child; the curious moving and doing explorer child; the quiet, focused, unexpectedly humorous child; and the socially interactive engaging 'on stage' child (Eyre 1997). The conclusion of Eyre's study found that by using this record procedure, the number of children identified increased to approximately 12 to 15 percent of the student population. This individual record is useful for initial observations, especially with young children, and when a teacher has a large, busy class which allows the teacher to quickly mark an ability when noticed. If numerous recordings are made, then further assessments should be followed, such as the CCEA & NCCA general checklist for identifying gifted and talented students. No participant chose this resource.

Heacox, and Hodge and Kemp's resources:

Heacox's (2012) checklist is about differentiating between a bright student and a gifted learner. This can be a useful resource to use when a teacher needs to ascertain and

distinguish if a student is bright or is gifted. If there is any question as to a student's ability, a more involved resource, such as the ACT (2010) checklist, should be implemented. Hodge and Kemps' (2000) study suggested there may be no one profile of characteristics, test scores, or both that typifies a potentially gifted pre-schooler. However, they found using the qualitative measures of the checklist, gaining information from parents and teachers, can provide a picture of the diverse ways in which potentially gifted children, especially those not yet exhibiting advanced academic achievement 'might express their current degree of advancement in ability, achievement, or both' (Hodge & Kemp 2000, p. 66). Their resource looks at the behaviours and characteristics of giftedness. This checklist requires corroborative information from teachers and parents. These resources can be used for various age groups.

Merrick, and Merrick and Targett's resources:

Merrick's (2004) checklist – which was adapted from Gross et al. (2001), Clark (1983) and Baska (1989), and Merrick and Targett's (2004) checklist, are teacher nomination forms. Whether they are checklists, questionnaires, or rating scales, they are 'subjective identification tools for identifying potential and/or performance' (Merrick & Targett 2004, p. 36). Both resources recommend using a parent nomination form, which was developed by Saylor (2016), as a follow up to the teacher nomination forms. Merrick's (2004) checklist can be used for various age groups and has been widely used in Australian schools (DET 2022a). This resource can be used to support the identification of underachievement in gifted students. This is because this checklist considers both positive and negative traits of giftedness. The negative traits that are mentioned in the checklist can contribute to underachievement. Merrick and Targett's (2004a) checklist is used specifically for children aged 3 to 6 years of age. For this checklist, children should be observed over a period of time. If a child displays at least one third of these behaviours or characteristics, then further testing using other identification resources should be used, including Saylor's resource.

Minnesota resource:

The Minnesota Council on gifted and talented children (2018), suggests that their checklist of 30 questions can apply equally well to children of various age groups including pre-school, elementary, and secondary levels. The questions are intended to serve as a checklist of the abilities revealed by many gifted students. For example: Does the child express curiosity about many things? Does the child persist in their efforts in the face of unexpected difficulties? This checklist needs to be completed by the child's parent/parents with a yes or no response.

Montgomery 1, 2, 3 (2011) resource:

Montgomery 1, 2, 3 (2011) checklists and questionnaire can be used on many different age groups. The Montgomery 1, 2, 3 (2011) tool involves three different resources. The first resource is a checklist which identifies characteristics of underachievement; the second resource is a checklist which identifies more able underachievers; and the third resource is a questionnaire focussed on awareness of advanced abilities. Montgomery (2011) believed if five or more behaviours are ticked in the checklists, then the questionnaire needs to be completed. The questionnaire should be completed by the student's parents/guardians.

Morrissey's resource:

Morrissey's (2012) checklist is useful for identifying young gifted children. She believed that there are subtle signs of giftedness in young children:

Rapid learning, strong memory, ability to concentrate for long periods, advanced language skills, ability to think at an abstract level, ability to think logically, curiosity and intellectual motivation, intense and wide-ranging interests, imagination and creativity, advanced play skills and interests, attraction to intellectual challenge and novelty, advanced sense of humour, and seeking out adults to provide stimulation

(Morrissey 2012, p. 17).

Morrissey (2012) also stated there are 'other characteristics which are indicative of giftedness: low threshold for boredom, perfectionism, intensity and sensitivity, and feeling different' (pp. 17-18). These characteristics can indicate some of the challenges gifted children face and can have negative or positive consequences.

Murphy and Breen's (2015) resource:

Murphy and Breen (2015) recognise that observing the behaviours of gifted learners and identifying what these behaviours mean enables educators to provide the support learners need. Teachers need to discuss with colleagues and family members which characteristics have been seen, and to realise that gifted children do not display all characteristics, and differences can occur in different settings. The resource included in their book was Murphy and Breen's (2015) checklist. It is important to remember it is highly unlikely that any one learner will exhibit all of these traits, and the lists should not be viewed as definitive of gifted characteristics. Rather, the authors believed the checklist is best used as a guide to observation and as a checklist of behaviours that could contribute to a gifted profile. The Ministry of Education in New Zealand (2007) contended that early childhood educators can adapt their practice for gifted students by documenting observed children's strengths and interests. Further observations or testing may be necessary for identification purposes. Discussions with parents can provide a more in-depth picture of a student, their interests, and abilities.

New South Wales 1, 2 and 3 resources:

All the New South Wales (NSW) resources can be accessed by downloading the pdf (<https://education.nsw.gov.au/policy-library/associated-documents/polimp.pdf>). These documents were revised in 2004 and describe the implementation strategies for the education of gifted and talented students. The resource aims to identify and 'maximise the learning outcomes for gifted students in all public schools' (DET 2004, p. 5). This edition recognised that 'problems of underachievement can be compounded by inadequate identification procedures' (DET 2004, p. 6), resulting in a gifted student underachieving and therefore being invisible. All schools in NSW have a responsibility to develop a school policy for the education of gifted and talented students. Schools in Victoria do not have to have a school policy or programs for their gifted and talented students. NSW 1 document is a checklist which can be used by teachers for identifying underachieving gifted students. This resource, which has been adapted from NSW's policy guidelines on gifted education incorporates the negative characteristics of gifted students that are often exhibited by gifted underachievers and students with a learning

disability. Comparing age peers, the NSW 2 document is also a checklist which can be used by teachers to see if any student stands out as possibly being gifted. The NSW 3 document is a parent checklist/questionnaire. Teachers can provide parents/guardians with this form to gain more information on a particular student. This resource must be used in conjunction with the Teacher Nomination Form. This form will provide teachers with vital information on pre-school behaviours and the characteristics of giftedness.

Northern Territory Government (NTG) (2015) resource:

To identify intellectual giftedness, the Northern Territory Government uses data and evidence from qualitative and quantitative tools. These can include rating scales, checklists, student reports, NAPLAN results and so on. The NTG checklist is specifically used to identify gifted underachievers. It can be accessed online at: <https://education.nt.gov.au/education/policies>, and was last updated in 2015. This resource lists 20 characteristics and behaviours of underachieving gifted students. For example: Is the student's daily work frequently incomplete or poorly done? Has the student got an indifferent or negative attitude towards school? Is the student easily distracted? Is there a gap between quality level of oral and written work? According to the Northern Territory Government 'All government schools will have processes and programs in place to identify and support gifted and talented students' (NTG 2020, p. 3), this also includes all independent schools. Part of their policy is to 'turn students of outstanding potential or gifted, into high-level performers, or talented' (NTG 2020, p. 3).

Okoye, Henning and Benson's resource:

Okoye, Henning and Benson's (2019) resource on 'How to spot a gifted child', contains the most common characteristics of gifted students. It is explained with both positive and negative aspects of giftedness in a yes/no checklist format. This pro-con style list can help sort what appear to be behaviour or attitude problems from what may be 'side effects' of giftedness (Okoye, Henning & Benson 2019). These researchers believed there is a good chance that the students may be gifted if they exhibit these characteristics. Recognising and understanding these common characteristics is very important for effectively catering for these students. By using this resource, the

challenging child may also be recognised as being gifted. With this resource, teachers may be able to note various behaviours, such as having intellectual curiosity but easily getting off topic, having a quirky sense of humour but easily gets carried away with a joke, learning new information quickly but easily becoming bored.

Porter's (2011) resource:

Porter (2011) offers one of the most extensive checklists of behaviours that are pertinent to the identification of giftedness in the early years. She notes two major limitations of this approach. First, it is difficult to know how much of a characteristic a child must display in order to be considered gifted and second, checklists generally do not indicate how many characteristics – and in which combination – must be demonstrated for a child to be deemed gifted. Montgomery (1996; 2009) suggests if a child has five or more characteristics, then they need to have further assessments. If a teacher is uncertain about a child's abilities, Porter (2005) recommends further testing. However, Porter also points out that teachers and parents are much more accurate in recognising giftedness and talent when they can refer to a checklist of characteristics.

Queensland Government resource:

The Queensland Government, Department of Education resource (2011), looks at many different characteristics of giftedness. The 'Early Start' materials have been developed specifically for Queensland, and along with these materials, the Queensland Government uses NAGC recommendations for identification and the Queensland Association for Gifted & Talented Children (QAGTC) (2011), arguing that as with all special needs students, no two students will display the exact same characteristics or traits. As a teacher it is important to compare the child with their age peers to determine eligibility in gifted programs. Two participants (Chris and Kerry) used this resource. In America, the NAGC along with the Council of State Directors of Programs for the Gifted (CSDPG) implemented the policy document called, *2014-2015 State of the states in gifted education: policy and practice data* (2015) which clearly showed that using the checklist to identify giftedness helped increase teachers' awareness and ability to identify gifted students. Thirty-one states in America found that by implementing the

NAGC's Pre-K to 12 gifted evaluation tools increased the identification of gifted students (NAGC & CSDPG 2015, p. 28). This tool is used because America's federal government does not have provisions or requirements for gifted services (NAGC & CSDPG 2015). The Queensland Government's resource is a quick and easy resource to use but children should be observed over a period of time.

Reis and McCoach's (2002) resource:

Reis and McCoach's (2002) checklist describe the behavioural traits of twice-exceptional gifted students who underachieve. They believed students with 'high potential and special needs are likely to experience underachievement' (Reis & McCoach 2002, p. 113). Reis and McCoach (2002) also believed these students have their special needs addressed more than the development of their strengths and talents. This resource contains characteristics that can hamper identification as gifted, including perfectionism, low self-esteem, and disruptive behaviour. It also contains characteristic strengths, such as, advanced vocabulary, good memory, and problem-solving skills. Gifted and talented students who are underachieving may suffer from undiagnosed learning disabilities and it is important to consider the possibility that a specific learning disability may be responsible for a student's underachievement. However, some underachievers may exhibit one or more of the overexcitabilities noted in this resource. This checklist considers all these possibilities.

Rimm's resource:

Rimm's (2008) 'Why bright kids get poor grades' contains an extensive and detailed list of underachievement characteristics. This checklist involves determining if a teacher has a student who is at risk of underachievement or is underachieving. It explains the different characteristics of underachievers (Section 1), risk factors that may initiate underachievement (Section 2) and discover what classroom risks can cause underachievement (Section 5). The scores are explained after each section. Rimm's Trifocal Model (1986; 2001) is a comprehensive approach for the identification of underachievement. Her revised model (2008) operates on the philosophy that underachievement is learned, and therefore achievement can also be learned. She

seeks to understand how the three major influences on a child's life – home, school, and peer culture – contribute to a child's underachievement. Rimm (2008) believed underachievement has become an educational epidemic amongst regular and gifted students.

Silverman, Chitwood and Waters resource (known as Silverman 1 resource):

Silverman's checklist can be used for early childhood identification. The Silverman 1 (1986) checklist is used for early signs of giftedness in young children. In order to complete this resource, teachers will need to obtain information from the student's parents or guardians.

Silverman, Gilman, Lovecky and Maxwell's resource (known as Silverman 3 resource):

Just like Reis and McCoachs' (2002) resource, the Silverman 3 (2019) resource looks at twice-exceptional children with the purpose of assisting teachers in recognising some common characteristics of gifted children with learning disabilities. These characteristics can include: takes much longer to complete assignments; makes careless errors in written work. In order to detect any unusually advanced behaviours or learning deficit, assessments are needed for all children who develop atypically. If a child has many of the characteristics within these checklists, it would be beneficial to refer the child for further assessment.

Spratt's resource:

Spratt's (1994) checklist is suitable to use with various age groups. It takes an overall look at the grade and identifies if anyone stands out. It was designed to improve the pre-screening process for students eligible for placement in gifted programs. His resource was used by 23 teachers and the analysis of the results indicated that teachers made more than double the referrals compared to the previous 3 years. The strategies Spratt (1994) implemented were shown to be primarily effective during his practicum. His resource is easily applied during class time.

Victorian Government resource:

The Victorian Government checklist (DET 2018a) looks at behavioural indicators and learning attributes of gifted students. These aspects of a gifted child's learning are frequently qualitatively different from those of more age-typical children and signal they are learning in an advanced way. Although development may be rapid with gifted children, they have the same things to learn as all other children. There are many characteristics which can identify if a child is gifted. These indicators may include: early development of language; abstract thinking; strong memory; a capacity to focus and concentrate on tasks of interest; intellectual curiosity; behaving in a more sophisticated way than their peers (this may result in behaviour such as taking on the role of the leader in play or finding social interaction difficult); and a strong motivation to learn (DET 2018a). Teachers also need to consider several other factors which can affect the process of identification.

Evidence may need to be collected over some time; the child's development can be uneven and varied; children may not perform on demand; a disability can mask gifted or talented behaviours; cultural bias or other biases can interfere with a teachers' ability to identify giftedness; and children may lack the opportunity or support to show their gifts (DET 2018b). DET (2018a) also thinks formal identification through IQ tests would be more appropriate if the child is older, moving to primary school or already in primary school. DET's (2018a) checklist used along with observations and other documentation, can be used for identification of gifted and talented students in early childhood and various other age groups. Informal identification methods like these can be used individually where students are suspected of being gifted or across the entire school as a basic screening resource. Using these types of approaches, a profile can be made of a student to support identification of giftedness. This resource was recommended by the Victorian Government for teachers to use for identification.

Western Australia resource:

The Western Australian (WA) Department of Education (2018) uses a checklist for students of various ages and identifies common characteristics and behaviours in

underachieving gifted students. Underachieving students may display either aggressive or withdrawn behaviour patterns and there are gender differences as well which are evident in the tendency towards aggressive behaviour in males, and withdrawn behaviour in some female underachievers. Adapted from Whiteman (1980) and Fisher (2005) the WA Department of Education has developed this checklist, which integrates more behavioural characteristics of gifted students. Gifted students often fail to achieve which shows up in results as achievement discrepancies. There are various explanations for this phenomenon, including: learning opportunities, motivation, interest, and of course, not being identified as being gifted.

School curriculum and other factors have been studied as causes of underachievement in gifted children (Gross 2000; Webb et al. 2007). One of these factors include insufficient challenge in the classroom which can lead to problem behaviours in gifted students (Webb et al. 2005). Gagné's DMGT also recognised reasons why underachievement happens. Gifted underachievers can share common motivational and attitudinal characteristics. They may lack the motivation to achieve and will need intervention strategies to enable their giftedness to be identified. The most common behavioural characteristic that is displayed consistently and frequently among underachieving gifted students is low self-esteem. These students do not believe they are capable enough to do the class work, or do what is expected of a gifted student. Using this checklist can lead to discovering underachieving gifted students in the classroom. This resource is very easy to use, and while it can identify an underachieving gifted student, it can also identify other types of giftedness.

4.3.2: Rating scales

Allan's resource:

Allan's rating scale was compiled from international research and trialled by early childhood educators on children aged 3 to 5 years. However, the rating scale could be appropriate for a wider age group, including for primary years because the behavioural indicators for giftedness listed in the scale were drawn from a wide research base (Allan 2002). Allan (2002), demonstrated 'the use of rating scales consisting of verified

indicators of gifted behaviours might be the best means of early identification of giftedness' (p. 4). This rating scale incorporates four comprehensive areas: cognition and language; approach to learning; creativity; and social competence. International research reviewed this resource, demonstrated that 'the use of rating scales consisting of verified indicators of gifted behaviours, might be the best means of early identification of giftedness' (p. 4). Allan's (2002) rating scale is an appropriate resource to use with children who do display advanced behaviour, but it can be used to explore the possibility of giftedness if a child's behaviour is unusual or puzzling. These unusual behaviours, as specified by Allan (2002) include:

- Does not get on well with aged peers;
- Is bossy or dominant;
- Is very quiet;
- Shows unusual sensitivity to the welfare of others, either peers or others not personally known;
- Other children go to for ideas or help;
- Seems always involved in mischief;
- Has unusual interests;
- Has intense levels of response to experiences; and
- Works very competently alone showing no interest in interacting with peers.

(p. 6).

Allan (2002) also believed that teachers need to corroborate the results of the rating scale with parents and to follow up, if necessary, with a parent nomination form.

Other studies reviewed by Allan (2002), showed that 'parents are reliable in identifying specific gifted behaviours in their children' (p. 7). To use this resource, Allan (2002) suggests:

1. Two teachers should complete the scale more than once each, to reduce teacher bias;
2. Observe target child several times over a period of one month;
3. Place a tick in the appropriate box to indicate the degree to which each indicator is observed;
4. Only record responses for indicators you have observed;
5. When uncertainty exists, use the notes section to record the behaviours observed, and discuss with other teachers and the child's parents/extended family/community members;
6. When half or more indicators in one headed area are observed 'frequently' or 'almost always', the program for this child should be differentiated.

(p. 15).

Gittman and Koster's resource:

Gittman and Koster's (2000) study reviewed measures required to determine students' eligibility for a gifted and talented program for grades 3 to 5. Teachers had recommended 162 students to the program in the 1998-1999 school year, and of these, 100 met requirements for the program based on an ability test. Based on the results of their study, the school district reviewed the measures used as criteria for eligibility to the district's gifted and talented program, particularly the teacher rating scale. 'Researchers have consistently found that teachers believe that their observations are the best criteria for valid recommendations of students to gifted and talented programs' (McBride 1992, p.4). The goal of the second edition rating scale was to identify students who would be most likely to demonstrate behavioural and attitudinal characteristics that support success in a Gifted and Talented Program. Gittman and Koster's (2000) study also found future research will need to examine the validity of the rating scale and revise it as needed.

McAlpine and Reid's resource:

McAlpine and Reid (1996) believed their rating scale is best used as a guide for observation of the behaviours that could contribute to a gifted profile. They argued that the characteristics of gifted and talented students can be studied according to five main characteristics: Learning characteristics; Self-determination characteristics; Creative thinking characteristics; Social leadership characteristics; and Motivational characteristics. Learning characteristics include the students being able to display logical and analytical thinking; is quick to see patterns and relationships; masters information quickly; strives for accurate and valid solutions to problems; easily grasps underlying principles; likes intellectual challenge; jumps stages in learning; seeks to redefine problems, pose ideas, and formulate hypotheses; finds as well as solves problems; reasons things out for her or himself; formulates and supports ideas with evidence; can recall a wide range of knowledge; and independently seeks to discover the why and how of things.

Self-determination is the process by which the student controls their own situation and circumstance. Self-determination characteristics include: being sceptical of authoritarian pronouncements; questioning arbitrary or random decisions; pushes teachers and adults for explanations; displaying a precocious interest in 'adult' problems; being reluctant to practise skills already mastered; being easily bored with routine tasks; expressing ideas, preferences, and opinions forthrightly; relating well to older children and adults, and often preferring their company; and asking searching questions. Creative thinking characteristics include the observation that the student: produces original ideas; displays intellectual playfulness, imagination, and fantasy; creates original texts or invents things; has a keen sense of humour and sees humour in the unusual; generates unusual insights; enjoys speculation and thinking about the future; demonstrates awareness of aesthetic qualities; is not afraid to be different; generates a large number of ideas; is prepared to experiment with novel ideas and risk being wrong; and seeks unusual rather than conventional relationships. Social leadership characteristics includes taking the initiative in social situations; being popular with peers; communicating well with others; actively seeking leadership in social situations; showing ability to inspire a group to meet goals; persuading a group to adopt ideas or methods; being self-confident; being adaptable and flexible in new situations; actively seeking leadership in sporting activities; being socially mature; being willing to take responsibility; and synthesising ideas from group members to formulate a plan of action. Motivational characteristics includes striving for high standards of personal achievement; being self-directed; being highly self-motivated and setting personal goals; being persistent in seeing tasks to completion; becoming committed to and absorbed in tasks; tending to be self-critical and evaluative; being reliable; and preferring to work independently (McAlpine & Reid 1996).

McAlpine and Reid's (1996) teacher observation scales for children with special abilities is a representation of gifted characteristics that was developed through New Zealand research (Edwards 2009). McAlpine and Reid (1996) researched the literature for commonly mentioned gifted characteristics. The New Zealand Ministry of Education

(2000) agreed with their compiled list. When teachers observe any of these characteristics, they should be noted using their rating scale (Appendix D).

Montgomery's resource:

Montgomery (1996) addresses foremost practices for able underachievement. In her updated version, Montgomery (2001) identifies techniques that will 'promote the abilities of all children in an inclusive setting without being detrimental to any particular group' (p. 262). Montgomery's (1996) rating scale looks at common behavioural characteristics of gifted and talented students. This resource uses learning and psychosocial behaviours as indicators of giftedness. For example: Learning behaviours in a student can include – follows complex directions easily, can recall in detail; Psychosocial behaviours can include – prefers company of older students and adults, stubborn in own beliefs. Montgomery believed if five or more behaviours are ticked, then the teacher should ask that a parent nomination form be completed for further assessment.

Sayler's resource:

Sayler's parent nomination form (2016) is a rating scale which has been used in several Australian schools. Sayler's (2016) rating scale 'Things my child has done', is a gifted and talented resource for parents and looks at characteristics of gifted young children. The examples noted in the resource after each item are there to help parents understand that item. A student may not show all the examples given and they may exhibit the item characteristic in ways not listed. Parents are instructed to indicate how much they think this child is like the statement by using the scale to the right of each one. To gain the proper picture of a child 'parents must be involved in the identification process' (Merrick & Targett 2004a, pp. 8-9), but quite often 'parents of gifted children more often underestimate their child's abilities, as they may see them as normal' (Merrick & Targett 2004a, p. 9). According to Merrick and Targett (2004a), parents are the ones who see early developmental stages which can aid in the identification process. It has been established by research that parents are excellent identifiers of giftedness in their children (Silverman 2009, p. 1). Parents are generally a reliable source of information. But some parents may downgrade their child's abilities, while

others may overestimate it. Even with this knowledge, 80% of parents do not tell their child's teachers about the child's abilities (Grant cited in Sanders 2012, p. 8). According to Sanders (2012), 'parents do not want to draw unnecessary attention to their child and believe that teachers will recognise giftedness and respond accordingly' (Sanders 2012, p. 8).

Sayler's rating scale is a particularly useful resource because it asks for written examples of the characteristics seen in the student, as well as an indication of how strongly it has been demonstrated.

Silverman 2 resource:

The Silverman 2 (1993) rating scale was originally developed in 1973, with this version produced in 1993. It can be used for early childhood as well as various other age groups. This resource looks at characteristics of gifted students and teachers should use this resource by comparing children of the same age. While the resource is 30 years old, her rating scale has been supported in the professional literature and other experimental and clinical studies (Schmitt et al. 2019). According to Silverman (1993), the characteristics listed in this scale 'appear to be able to discriminate children who score in the superior and gifted ranges from those whose abilities are in the average range' (p. 4). Silverman 2 was one of the resources recommended by the Victorian Government to use for identification purposes. In fact, this resource has been widely used in Australian schools (DET 2022a).

4.3.3: Parent nomination resources

The parent nomination resources mentioned previously include: Montgomery 3, New South Wales 3, Sayler and Silverman 3. These resources can provide the teacher with an enormous amount of information about a student. Teachers can use this information to ascertain whether or not a student may possibly be gifted. If a teacher establishes that the information contained in these resources show that the student may be gifted, then the student can be further assessed.

4.3.4: Teacher nomination resources

The teacher nomination resources that have been previously discussed in this chapter include: Australian Capital Territory Government; CCEA and NCCA; Clark; Eyre; Gittman and Koster; Heacox; McAlpine and Reid; Merrick; Merrick and Targett; Montgomery; Morrissey; Murphy and Breen; New South Wales 1; Northern Territory Government; Okoye, Henning and Benson; Queensland Government; Reis and McCoach; Rimm; Silverman 2 and 3; Spratt; Victorian Government; and Western Australia Government.

TKI Ministry of Education resource:

The New Zealand TKI Ministry of Education (n.d.) uses a setting-wide approach to supporting gifted learners in early years in New Zealand. This list was initially developed by Carr, May and Podmore in 1998. It contains a set of characteristics that looks at issues of definition and identification, but believe their list should not be viewed as definitive and educators are advised to use it only as a guide. This resource includes key dispositions or behaviours of giftedness in early childhood, and is used as a guide for identification of gifted children. The key dispositions include: taking an interest; becoming involved in the things around them; persisting with challenge; expressing a point of view; and taking responsibility for their own learning. The key dispositions of children can be observed by using learning stories, where children's learning is represented and analysed through a snapshot of their learning experiences, and interaction with other students and the teacher. The dispositional work is for open-ended observation and reflection where examples of characteristics and behaviours (as listed above) need to be provided. This resource would be best used after implementing a rating scale or checklist for early childhood. Together, a rating scale or checklist and the observation scale, would increase a teacher's awareness of the ability of the student and all the information which can be gathered will support the teacher's ideas about the student. The more information which can be put together about a student to support possible giftedness, the better the outcome will be for that student.

4.3.5: Parent/Teacher nomination resources

These forms are used as a tool to identify giftedness; the purpose of which is to nominate students for gifted programs. These types of resources need to be collaboratively filled in with parents and teacher input. The parent/teacher nomination resources that have previously been mentioned include: Hodge and Kemp, Minnesota Council, New South Wales 2, Silverman 1, and Silverman 3. Many parent nomination resources can be also be collaboratively filled in by both parents and teachers.

Smutny's resource:

Smutny's (2004) resource is a questionnaire which needs to be completed collaboratively between the parent and the teacher. Her experiences have shown that the scope of underachievement amongst gifted students has not really been understood by educators or administrators. She also believed that they are not likely to recognise underachievement in gifted students in their own schools. Teachers need to work with parents to coordinate their efforts so that they can pool their information and experiences together in order to help the child progress more effectively. Rubenstein and Siegle (2012) contend there are two initial questions that need to be discussed between teacher and parents: When thinking about your child, do you believe your child can do the work but has control over how well she/he does? And, does your child see value in the work at school? They believe by answering these two questions can help find possible options to provide support and stimulating learning opportunities for underachieving gifted students. According to Smutny (2004), most interventions in the literature involve parent-teacher collaborations in order to obtain the correct information about the child. This resource has been slightly adapted by the researcher in order to obtain the most informative information from the questions. This included altering some of the questions and adding extra ones, such as, does this child daydream?

4.3.6: Peer nomination resources

Kaya's resource:

Kaya (2013) is a peer nomination resource. This form allows students to acknowledge their classmates' abilities. In conjunction with checklists/rating scales, this resource

(including Murphy's resource) can be an invaluable tool for identification. The questions in this form include: who knows a lot of information; who knows what to do when things go wrong; who tells interesting stories. The scoring procedure for a peer nomination form is as follows: a student would receive one mark each time his or her name was chosen for a question by his or her classmates. All marks for each student were summed and then divided by the class size in order to produce the mean peer nomination score, which allows evaluation of the scores across classrooms irrespective of class size. The possible score of a student would range from zero to possibly more than the number of classmates. The higher the score a student receives, the more intelligent he or she would be judged to be by his or her classmates.

Murphy's (2004) resource:

Peer nomination forms can be used to screen students for giftedness. Students need to note their classmates' behaviour based on their experience, interactions, and observations in the classroom. Murphy's peer nomination form (2004) was chosen by Merrick and Targett (2004a) as an appropriate tool to use to identify giftedness. In 1989 Gagné conducted an analysis of 13 studies which used peer nomination forms as part of the assessments. Gagné found that there are some advantages to using these types of forms, and that they can be a 'potentially worthy technique' (1989, p. 53). In the opinion of Merrick and Targett (2004b), peer nomination forms are 'easy to use, in design, administration and compilation of the results' (p. 17).

These types of forms may reveal insights which may not be available through using other methods or identification tools. There are guidelines which should be adhered to when administering peer nomination forms. For example, teachers should: wait until 2nd term before administering the form so that students have time to get to know their classmates; explain the purpose of the form: give an example so that students understand; remind students to think of everyone in the class and not just their friends; and use appropriate language to suit the age of the students (Merrick & Targett 2004b). Even using the right procedures there are limitations to peer nomination forms. Usually, these forms are not designed for use by children over 7 years of age, because younger

children have difficulty in making judgements about the abilities of their classmates. Some other limitations include: children may not nominate a student because they do not like them; students may want to nominate their friends; and underachievers may wish to hide their abilities by not revealing their gifts to their peers (Merrick & Targett 2004a). Aside from these limitations, peer nomination resources can provide interesting information for teachers. Along with the educator, Murphy's peer nomination form can be used with three- and four-year-old children. According to the Ministry of Education (TKI n.d.), peer nomination forms can be used conjointly with teacher- and self-nomination forms to triangulate the data to increase the reliability of the results.

4.3.7: Self-assessment resource

Self-assessment resource:

The self-nomination form was adapted from the School Board of Miami-Dade County, Florida, by Lyons in 2019 to suit ages 8 to 13 years of age. For example, the adaptation includes other questions to original resource, such as, I have an excellent memory, and I learn things very easily, as well as questions that need a written response by the student. The personal information collected in this type of resource can be used to better understand the feelings and interests of a student. They can be a useful source of information for classroom teachers to get to know their students. They are useful for identifying areas of interests such as music, sport, acting and so on, or special abilities such as being creative, able to solve problems, good with computers. This resource is mostly a rating scale (strongly agree, agree, disagree, and strongly disagree).

These forms can display bias because students may not be able to make an appraisal of their own abilities (TKI Ministry of Education). However, other students may find it easier to note areas of interests and success when they would normally be reluctant to nominate themselves. Self-nomination forms can be facilitated as a classroom activity or through teacher-student interviews.

4.3.8: Age related resources

Many of the resources listed are useful for various age groups, which includes ages 7 to 17 years. However, there are resources in the toolkit that cater for early childhood years (3 to 8 years). The early childhood resources can be used on students in primary school up to grade three. There is one resource which caters for ages 0 to 17 years (Ruf 2009). This resource would have to be completed by parents or guardians.

4.3.9: Subject specific resources

There are many resources on the internet that cater for specific subjects. There are resources in the toolkit that identify different aspects of mathematical giftedness. These resources look at mathematical competence, and investigate areas where a student may excel. They include Murphy and Breen (2015), and Ruf (2009). Creative giftedness resources are also included in the toolkit. These are the ACT resource (2010), Allan (2002), and McAlpine and Reid (1996).

4.3.10: Underachieving gifted resources

Within the toolkit there are 10 resources which can be used specifically to identify underachieving gifted students: the ACT (2014) checklist (p. 302); Hodge (2013) checklist (p. 315), Merrick (2004) checklist (p. 322), Montgomery 1,2,3 checklist and parent questionnaire, Murphy and Breen (2015) checklist (p. 335); the NSW 1 document (2004) checklist (p. 337); the NT policy document (2016) checklist (p. 341); Okoye, Henning and Benson (2019) checklist (p. 342); Reis and McCoach (2002) checklist (p. 348); and the WA document checklist (2018) (p. 370). The Montgomery 1,2,3 resource, which uses three resources, contains two resources which are checklists and the third resource is a parent questionnaire. Apart from identifying an underachieving gifted student, these resources can also be used to identify other types of giftedness.

4.3.11: Counsellor resources

Gifted children experience emotions and social development, and intensity around different subjects and topics that is different from the norm (Davidson Institute 2021). In this way, gifted children present a unique challenge to parents. Most of the resources in

the toolkit can be implemented by teachers but they can also be used by counsellors. There are many other specific resources which are used by school counsellors and psychologists to identify giftedness, such as, Pfeiffer and Jarosewich's (2003) rating scale, the Stanford-Binet test and the Weschler individual assessment (Limitations: Section 8.1). However, the Silverman 3 checklist (Appendix D) states that it can be used by counsellors as an assessment tool. Remembering that, psychologists formally identify giftedness, whereas, the resources in the toolkit are used as an informal method for identification.

4.3.12: *Additional resources:*

Other resources that have been identified as pertinent to this research: CCEA & NCCA's (2007) resources and Ruf's (2009) resource. All of these resources were considered an essential part of the toolkit as they are a different type of resource suitable for teacher's personal use. The CCEA & NCCA (2007) resources include an individual record sheet (p. 381), observational chart (p. 383), classroom strategy checklist (p. 385) and an audit form (p. 386). Together these resources can be useful for teachers to initiate a gifted identification program within their classrooms.

The individual record sheet is a written exercise which allows teachers to note each student's strengths and weaknesses. This sheet includes certain abilities which need to be highlighted if they are seen in a student. These abilities include for example, mechanical ingenuity, specific intellectual abilities, and creative and productive thinking. It also allows teachers to note the support the student is getting or what they may need.

The observational chart is a written exercise used to describe all student's specific strengths and areas that need to be developed. This chart can be used for all curriculum areas; for example, if the topic in question is mathematics, the teacher needs to note student's achievements and what needs work. Characteristics or behaviours noted need to be included in this form, for example, being able to note patterns, figuring out problems, wanting to know more about mathematics, and so on. The chart will end up listing all class members on the one form.

The classroom strategy form is a checklist for teachers. It is used as a guide to discover what areas teachers may need to address as part of their practice and areas that need to be worked on. For example, being aware of school policy, grouping gifted and talented students together for specific subjects or activities, and so on. This strategy is used for gifted and talented students.

The gifted and talented audit form is a checklist used by teachers, for teachers. As with the classroom strategy form, teachers need to address areas of concern for the benefit of students. Teachers need to state for example, if the school has identified a teacher who leads in the gifted and talented programs or identification; or teachers who use a variety of forms of differentiation in their teaching.

Ruf's resource:

Ruf Estimates of Levels of Giftedness (RELG) (2009), is a checklist-style parent nomination form and is a valuable tool for parents to use to identify a child's ability. Ruf (2009) describes five levels of giftedness: Level 1 contains two sub score ranges, 120-124 is moderately gifted and 125-129 is gifted. Ruf (2019) believed a third to a quarter of students in a class would fit in this level, although most students in this level 'don't qualify for gifted programs' (Ruf 2019, RELG: Level one gifted, para. 13); the Level 2 score range of 125-135 is highly gifted. Ruf (2019) believed as many as one to three students in a class would fit in this level; the Level 3 score range of 130-140 is highly to exceptionally gifted. Ruf (2019) believes there would be one to two students per grade level in this category; the Level 4 score range of 135-141+ is exceptionally to profoundly gifted. There would be one to two students across two grade levels; and finally, the Level 5 score range of 145+ is profoundly gifted. Ruf (2019) believed one in 250,000 students would fit in this level. Although levels do overlap one another, the judgement regarding category would depend on the number of ticks for each level. The detailed characteristic and behaviour list for each level allows parents to easily complete this resource. Parents can estimate their child's ability by investigating Ruf's (2009) *Estimates of levels of giftedness* form, to find out where their child's ability fits. For

example: If the child has the most ticks in Level two, then the child would have an approximate score of between 125 and 135, this would also mean they would have fewer ticks in level 3. This score is considered in the highly gifted range; if the child has the most ticks in level four, then the child would have an approximate score of between 135 and 141 plus. This resource can be used alongside teachers to establish the child's level. This would allow a parent to have a better insight into what their child could be capable of. This information should then be given to the child's teacher and further assessments should follow.

4.4: Toolkit summary

The toolkit was designed to cater for all year levels from pre-kindergarten to year 12. It contains over 30 resources to cover all year levels and includes checklists, rating scales, questionnaires, peer, and self-nomination forms, as well as parent forms and observation charts, individual record sheets and a classroom strategy list. Other forms include a resource that indicates different levels of giftedness and a resource to help teachers identify the differences between bright and gifted students. The toolkit contains information on how to choose and use the resources. Most of the resources use comparative analyses with age peers, for identification purposes. Therefore, it is important to use the same resource on every student in the grade. Following on from the toolkits' resources, there are gifted and talented resources and information for teachers to discover what they can do with and for gifted students (Appendix D). There is also a quick reference guide and more in-depth referencing, so that teachers can choose the right resource for their particular needs. The in-depth references have been explained in the contents section of the toolkit, where each resource has been clearly and carefully described by its type (e.g., checklist, rating scale, etc.), the age group they can be used for (kindergarten, primary or secondary level), and how to implement and evaluate them (Appendix D).

4.5: Summary of chapter

The resources in the toolkit were chosen because of their content and the prominent researchers in the field of giftedness who designed them. While many of the resources

in the toolkit are similar, they are not the same. These were included because the resources mentioned different characteristics and behaviours of underachievement and giftedness. Used and evaluated correctly, all the resources in the toolkit can help with recognition of giftedness. The resources can also be used to recognise students who are underachieving and gifted. Although most of the resources have been sourced internationally, they are still relevant in an Australian classroom setting.

While many characteristics and behaviours of gifted students can be described as positive, the resources included in the toolkit contain many negative characteristics and behaviours of gifted students. These can mask the giftedness of a student, who otherwise may be overlooked. By including masking characteristics and behaviours of gifted students, an underachieving gifted student may be recognised and be nominated for further screening.

The next chapter investigates the data obtained from the pre-survey and the post-survey.

Chapter Five: Pre- and Post-Survey Findings

'The incorporation of this methodology [surveys] into research enables researchers to triangulate across measures and methods, providing more compelling evidence of social phenomena than any single methodological approach can'

(Visser, Krosnick & Lavrakas 2000, p. 247).

The survey used for this study was originally developed by Spratt (1994) so that teachers could screen students for giftedness. Spratt's (1994) study of 23 teachers involved them completing a pre- and post-survey. His data showed the teachers made 236 errors for the pre-survey (average of 9.83 errors) and 187 errors for the post-survey (average of 8.9 errors). Spratt (1994) stated that more teachers made fewer errors for the post-survey and thus, more students were nominated for screening. This resulted in Spratt's (1994) survey being chosen for part of this current research. Although Spratt's study happened nearly 30 years ago, understanding giftedness is difficult to generalise, and teachers need to know characteristics and behaviours of giftedness in order to be able to respond to the questions in the survey and to be able to recognise giftedness. With the many changes in beliefs and knowledge about what constitutes a gifted student, the pre- and post-survey has not been used in the same way Spratt did in 1994. The survey is not about whether or not the participants made errors, it is about the changes made from pre-survey to post-survey. In this chapter the researcher shares the findings from this data.

5.1: The experts

The experts were the advisors for this research and they have been given the pseudonyms Oscar and Penny. The expert's responses were used as a level of quality (benchmark) to compare the survey results of the participants. Their response to the survey questions were utilised as a baseline to help in the interpretation and reporting of the participants' responses. Oscar and Penny's responses were used to investigate the participants' responses, individually and collectively, to ascertain if any knowledge had been gained overall by implementing the toolkit. The comments made by either Oscar or Penny about the survey questions were communicated by an email to the researcher. The responses for the survey of each participant were compared individually to Oscar's

responses and then to Penny's responses. In the same way, the participants' responses were then compared with the combined response of the experts. Comparing each participant's response to each expert occurred because the experts were not in total agreement with one another for many of the survey questions. For example, with question 1 Oscar chose true/false and Penny chose false, with question 19 Oscar chose true/false and Penny chose true, and with question 33 Oscar chose false and Penny chose true/false (Table 8). This enabled the researcher to investigate the group (limited, emergent, or advanced) where each participant belonged when compared to each expert (Table 9).

Table 8 represents examples of the different responses the experts could reach. The experts totally agreed on 18 questions (100%); they mostly agreed on 20 questions (75%). This occurred when one expert marked the response with either a true or false and the other expert marked it with a true/false; and they totally disagreed on two questions: Question 8 – enjoy tests (0%), and Question 28 – have no behaviour problems (0%). These differences occur because of a person's viewpoint and based on the individual student who is being assessed: gifted children do usually enjoy tests, but underachieving gifted students usually do not (Baslanti 2008). In this case, other characteristics of these students need to be looked at. For example, these children can have a fear of failure, or they may have behavioural problems, but often these behaviours can be misinterpreted, which causes identification problems (Post 2017). The experts chose true/false because, as Penny pointed out '*Sometimes it depends on circumstances, and on the child*' (Penny 2019, personal communication, 10 June). Many of the survey questions are equally true and false or 50/50 (true/false). With 75% and 100% agreement (average of 87.5%), for all intents and purposes, the experts had essentially agreed on 38 of the 40 questions.

To find out the experts' combined responses for the survey questions, their responses were identified using percentages. This would create a way to identify the results of the survey questions. The experts' combined response resulted in either agreeing by 100% (agree), 75% (mostly agree) or not at all 0% (disagree). The possible combinations for

the experts' responses were: 100% agreement: 1 and 1, 0 and 0, 0.5 and 0.5; 75% agreement: 1 and 0.5; 0.5 and 1, 0 and 0.5, 0.5 and 0; and possible experts' choices where they did not agree 0%: 1 and 0, 0 and 1. It was considered when the experts agreed by 75%, and for the purpose of this research, this was an agreed response.

Table 8: Example of Experts' Responses

Example of Survey Questions		Experts				% Experts Agreed
		Oscar	Penny	COMBINED % TRUE	COMBINED % FALSE	
1.	Get excellent grades (A's) in all major subjects. (Language, Arts, Math, Science, etc.)	0.5	0	25	75	75% for F
8.	Enjoy tests	0	1	50	50	100% for T/F
11.	Constantly asks questions that are unusual.	0.5	1	75	25	75% for T
14.	Prefers to be alone and do independent tasks.	1	1	100	0	100% for T
21.	Enjoy physical education classes.	1	0.5	75	25	75% for T
27.	Are motivated by rewards from teacher or parent	0	0	0	100	100% for F
28.	Have no behaviour problems.	1	0	50	50	50% for T/F
33.	Have limited areas of interests.	0	0.5	75	25	75% for F
37.	Can be disruptive in class.	0.5	0.5	50	50	100% for T/F

Note# Response to the survey questions were either true, false or true/false

To clarify these results, True (T) = 1, False (F) = 0 and True/False (T/F) = 0.5. False is listed as 0 to make reading the table easier, but its value is the same as true (1), and T/F is 0.5 because the experts believe the response is 50% true and 50% false or 50/50 for T and F. To work out the experts' response for each question, add together the amount they got (remember false = 1), then divide this by the number of experts (2) and multiply the results by 100 to get the percent. For example: on Question 1 Oscar chose true/false (T/F = 0.5) and Penny chose false (F = 0); this resulted in their combined response: $1.5 \div 2 = 0.75 \times 100 = 75\%$ for false and $0.5 \div 2 = 0.25 \times 100 = 25\%$ for true. This made their combined result false. On Question 14 both Oscar and Penny chose true (T = 1), so their combined response works out to be $(1+1=2, 2 \div 2=1 \times 100)$ 100% for True and 0% for False. On Question 27 both Oscar and Penny chose false (F = 0), their combined response is $0 \div 2 = 0 \times 100 = 0\%$ for True and $2 \div 2 = 1 \times 100 = 100\%$ for False. For question 37 Oscar and Penny both chose true/false (T/F = 0.5), so their

combined response is $1 \div 2 = 0.5 \times 100 = 50\%$ for True and $1 \div 2 = 0.5 \times 100 = 50\%$ for False, this means they agreed 100% for true/false. Percentages were used to easily show how much the experts agreed or how much they disagreed. By doing this, the researcher was able to ascertain the combined choice of the experts, in order to identify the participant's results for the survey questions (Table 9).

The discrepancies between the expert's responses can be attributable to different circumstances (e.g., prior knowledge, situations they have encountered) beliefs, and so on. 'Contrary to common stereotypes, giftedness is not synonymous with high academic achievement. The gifted student archetype, while expected to be a mature classroom leader, does not fit all gifted students' (Kuzujanakis 2013, Misunderstood giftedness, para. 1). Although past and varying philosophical views on giftedness have influenced the development of gifted education, these differing conceptions of giftedness have resulted in problems with definition and identification.

5.2: Participants' grouping

Grouping the participants for the survey would create a different perspective for the results. Investigating if the participants had limited, emergent or expert knowledge on giftedness prior to and after the intervention, would provide an alternative method of determining if the participants had increased their knowledge on giftedness because of implementing the toolkit. When the initial meeting took place, each teacher was asked if they had any knowledge on underachievement or giftedness. While most teachers responded that they were knowledgeable on underachievement, some stated they had only limited or emergent knowledge on giftedness. This presented an issue with grouping the teachers into three distinct groups. After analysing their pre-survey responses and the recordings during the professional development, teachers were allocated a level of experience by the researcher (Table 9). This information was only going to be used comparatively to establish differences between the pre-survey and post-survey.

Oscar's and Penny's responses to the survey allowed the researcher to use their responses to place the participants in a particular group (Table 9). Two participants, Dana and Grace, were initially identified as having more knowledge on giftedness than the other participants by the researcher during the first meeting. One of the main reasons Dana was placed in the expert group was because she commented during initial meeting that she was knowledgeable about the different aspects of giftedness. Dana and Grace's responses were going to be used for comparative purposes, however the researcher ended up using independent experts on giftedness for the comparison (Oscar and Penny). The researcher was then able to allocate the participants to a specific group (according to the experts' responses) in order to identify if any participant had heightened their awareness or knowledge about giftedness after using the intervention.

This information was used for triangulation of the data, to help establish characteristics and behaviours commonly observed by teachers and to compare their knowledge prior to and then after the intervention. In fact, after the intervention Dana commented during the interview *'I think I had a pretty decent understanding of giftedness beforehand...and didn't think oh yeah that could be a gifted child'* (Dana 2019, interview, 16 October). She believed the toolkit went into more detail on giftedness and looked at things she had never thought of before. The experts' responses were used by the researcher to place the participants pre- and post-survey results into a group (1, 2, or 3). Using the expert's responses made grouping the participants, although subjective, categorical. This allowed the researcher to have another method to investigate the results.

When the participants were grouped according to their responses on giftedness and underachievement for the post-survey (after the intervention), the results showed some of the participants had their grouping changed. Oscar's results now placed two participants to group 2 (Kerryn and Luke). In other words, after using the toolkit, these two participants now had emergent knowledge. The experts' results grouped many of the participants into group 1 (limited knowledge) because the participants' survey

Table 9: Participant's grouping

Group 1: Limited Group 2: Emergent Group 3: Expert	
Researcher's pre-survey grouping for participants based on responses:	
Group 1	Alan, Chris, and May
Group 2	Betty, Eric, Finn, Jayne, Kerryn, and Luke
Group 3	Dana and Grace
Researcher's pre-survey grouping for participants based on years of experience:	
Group 1*	Alan, Chris, Dana, Eric, Jayne, Luke, and May
Group 2*	Finn and Grace
Group 3*	Betty and Kerryn
Oscar's pre-survey grouping:	
Group 1	Alan, Betty, Chris, Dana, Eric, Finn, Grace, Kerryn, Luke, and May
Group 2	Jayne
Group 3	
Oscar's post-survey grouping:	
Group 1	Alan, Betty, Chris, Dana, Eric, Finn Grace, and May
Group 2	Jayne, Kerryn, and Luke
Group 3	
Penny's pre-survey grouping:	
Group 1	Alan, Betty, Chris, Dana, Finn, Grace, Kerryn, and May
Group 2	Eric, Jayne, and Luke
Group 3	
Penny's post-survey grouping:	
Group 1	Alan, Betty, Chris, Dana, Finn, Jayne, Kerryn, Luke, and May
Group 2	Eric and Grace
Group 3	
<i>Note# Using the expert's survey responses as a guide, allowed the researcher to allocate each participant to a group (1, 2, or 3) for the pre- and post-survey.</i>	

responses ended up being less than 50 percent of the experts. In other words, the participants agreed with the experts on fewer than 20 questions.

Although there were some changes to the grouping with the post-survey results, three participants remained in the same group: Alan, Chris and May. This was where the researcher had placed these participants but there were some participants whose grouping changed dramatically from the researchers' assessment: Dana and Grace were not considered to have expert knowledge on giftedness when compared to the expert's responses. Oscar and Penny's results showed Dana belonged to group 1 (limited knowledge) for pre- and post-surveys; and Penny's results showed Grace belonged initially to group 1 (limited), then after she implemented the intervention, she was allocated to group 2 (emergent).

Putting the participants into groups, before and then after they had completed implementing the toolkit, was to help to identify if any participant would increase their knowledge of giftedness. While most of the participants remained in the same group, some of the participants did move up into the next group and some moved down a group. Using this method to address the research question, did not clearly show an increase in the participants' understanding of giftedness.

5.3: The survey

The researcher adapted Spratt's (1994) survey to include questions related to underachievement amongst gifted students. For this research, the survey was used as a research tool. It was used to discover what the participants knew prior to implementing the toolkit about the characteristics and behaviours of giftedness and then again after the intervention to ascertain the knowledge the participants gained/or not, from implementing the toolkit. In educational research, surveys provide researchers with primary data which can be considered versatile, reliable, usable, and cost effective.

Apart from investigating changes made from pre- to post-survey, the survey also raised provocations and other issues. The experts made many comments on the survey sheet

(Section 5.3). They highlighted the fact that teachers need to know their students. If teachers who understand and know their students' interests, strengths and needs, this knowledge can be applied to facilitate a more effective learning environment for the classroom. In other words, teachers who know who their students are as individuals can help keep students engaged in learning.

The issue of right or wrong came up with a few teachers and they were told the survey was more about finding out what they thought, and less about the answers being right or wrong. This information was provided to all the participants because many were worried about giving an incorrect response. In fact, the participants found it difficult to answer some of the questions in the survey. Since Spratt (1994) developed his survey, there have been many changes about what characteristics and behaviours gifted students display (developing understanding). This resulted in having three responses for the survey: true, false, and true/false. These options were more in line with recent, more diverse views of giftedness. The participants were told they could respond with both if they felt either answer could be applied. The researcher believed, as did the experts, that both responses could be given to some of the questions.

The participants' responses were individually and comparatively compared with the responses of the two experts. These results were put into the IBM SPSS statistics program to establish the participants' individual and combined responses to the questions in the survey. This program was used to help delve into the data, and to help with analysis of the data. Comparison of the pre-survey and post-survey results was expected to indicate if the toolkit had influenced the participants thoughts about giftedness. The use of the SPSS program was recommended to the researcher during an assessment phase of the doctorate. Although these results showed there were some clear differences between true, false, and true/false, this study is a small-scale study, and as such there are no statistically significant results.

5.3.1: *Pre-survey comments*

Most of the questions in the survey elicited mixed views from some of the participants and the experts. Initially the survey questions were about the response being either true or false. This changed when the participants and the experts made written comments on the survey that both true and false could be applied to many questions. This resulted in the participants ticking both true and false. While some of the participants found it difficult to answer some of the questions with either true or false, other participants went beyond the parameters of the survey to make comments and written statements about those questions in the survey. Most of the participants were certain about some of the questions but with others, they were unsure. They were also reminded that the survey questions were about 'What characteristics do 'most' gifted students possess?'

There were five participants who wrote comments on the pre-survey sheet. Chris wrote multiple comments after the questions. His wording was '*some do and some don't*' (Chris 2019, interview, 16 October), meaning some gifted students show particular characteristics and behaviours of giftedness and some do not. Even though he wrote these comments, he was able to respond to the questions. For example: Work well in groups, he wrote '*not all*' and marked this question false; and for the question 'have limited areas of interests' he wrote '*some may*' and responded with a false. In fact, he marked every question he commented on as false. He believed these particular questions were false because in his view they did not apply to most gifted students. Dana marked all of the pre-survey comments false. She believed, as did Chris, that gifted students '*can present these characteristics at times*' (Dana 2019, interview, 16 October).

Eric commented that he had no absolute opinion for 16 questions and marked them true/false. He made two other comments: regarding the statement 'gifted students are good memorisers' he wrote '*appears so*' and believed this '*may be a different function*' with gifted students. He marked this question true/false. He also thinks that gifted students '*generally have limited areas of interest*' (Eric 2019, interview, 16 October), and he marked this question true. Finn also commented on the same question. He

stated that gifted students are good memorisers but '*only for their interests*' (Finn 2019, 11 November). He too marked this question true/false.

Grace made four comments on the pre-survey sheet: Gifted students only enjoy '*elements of school, certain subject areas*' (Grace 2019, interview, 11 November). She marked this question true/false; for the next question she believed gifted students only enjoy being with 'like-minded peers' but marked this question true. On the next question she commented that gifted students '*have no behaviour problems*' when they are '*stimulated and engaged*'. She marked this question true; and she qualified the statement that 'gifted students find school boring' by writing 'at times' and marked this question true. Grace should have marked the last two questions true/false because she wrote comments about those questions that could mean '*sometimes yes and sometimes no*' (Grace 2019, interview, 11 November).

5.3.2: Post-survey comments

After the intervention, two participants made comments about the survey questions Finn and Kerryn. Although Finn specifically commented on two questions for the pre-survey, he changed his response for all the questions in the post-survey to having a true/false response (except for one). He made written comments on most of the questions; Kerryn wrote comments on five questions about her possibly gifted student: she added to the statement '*does not like working in groups*', that he '*prefers working on his own*'; physical education was '*not his favourite*'; enjoys being with peers '*but also enjoys his own company*'; she wrote that he has '*autism (ASD)*'; and repetitive tasks are '*not how he learns*' (Kerryn 2019, interview, 12 December). Not only were the participants able to complete the survey, they were able to write comments about the questions in relation to individual students.

The participants and experts had similar/dissimilar comments and responses about the survey questions. Oscar wrote he did not have silly ideas because '*my ideas where intellectually held as interesting to others*' (Oscar 2019, personal communication, 11 November) whereas Penny's response was true/false because '*it depends on the*

individual' (Penny 2019, personal communication, 10 June). Possibly, Oscar is an individual who would fit in with Penny's comment. Chris commented that not all have silly ideas and marked his response with a false. Dana commented that students '*can present these characteristics at times*' (Dana 2019, interview, 16 October) and marked this question also false. Kerry marked this question with a false but commented they can come up with wild ideas but these are not necessarily silly. This is a question that has had opposing results among the participants and experts. This indicates the result for this question is dependent on the individual and what experiences they have had.

Another question had a similar result. Oscar commented he would only stay on task for extended periods if the topic interested him, he chose true for his response. Penny also commented similarly with '*in area of interest*' (Penny 2019, personal communication, 10 June). She also chose true, but responded with '*often*' and '*not all tasks*'. Chris wrote '*not all can*' stay on task for extended periods and responded with a false. Eric stated it '*appears so*' and responded with a true/false. In this case, some of the comments for this question are similar but it still prompted different responses by the participants.

There were two other questions where the participants and experts had similar ideas but with different results. When the experts and participants responded to the statement '*most gifted students have no behaviour problems*', Oscar responded that it was true, but he stated '*not in the early years, but in teenage years I did*' (Oscar 2019, personal communication, 11 November). Penny's response was false. She said '*behaviours are often misinterpreted*' (Penny 2019, personal communication, 10 June). Chris' response was true, Dana's response was false and Finn's response was true/false; and when they responded to the statement '*most gifted students have limited areas of interest*', Oscar believed he did not have limited areas of interest and stated '*if I had my way, I would just read non-stop*' (Oscar 2019, personal communication, 11 November). Penny's response was true/false and she commented that this question was individual. Chris' response was false but still commented that some may have limited areas of interest; and Eric's response was true and he added that generally gifted students have

limited areas of interest. This is another example of different responses, but with similar views.

These questions are an indication of where teachers and researchers have different views, between themselves and with others, on giftedness. This is one of the reasons why there has not been a consensus between states and territories as to what constitutes a gifted student.

5.3.3: Expert's comments

Oscar and Penny made many written comments about the survey. Oscar commented on nearly all of the survey questions. His comments were more about himself and how he felt growing up. For example: he commented that he could stay on task for extended periods but that it depended on the topic. He chose true for his response; he commented he was an excellent memoriser if he was interested and he wrote that he enjoyed only some of school, and that he was always *'a quick thinker and problem solver'* (Oscar 2019, personal communication, 11 November). Penny commented on nearly every question: for example, she wrote *'Not necessarily (Get excellent grades in all major subjects) as some may underachieve and some may have one area of giftedness, but not all'* (Penny, personal communication, 10 June). Mostly she commented *'it depends on the individual'* or *'usually, but depends'*. With 12 questions, Penny stated that these particular characteristics appeared often in gifted students, and about gifted students completing all classwork and homework, she commented *'not usually as it is often boring or they are perfectionists'* (Penny 2019, personal communication, 10 June). Penny was critical about 14 questions in the survey commenting *'stupid comments as totally variable'* (Penny 2019, personal communication, 10 June). Even though Penny condemned these particular questions, many of the characteristics or behaviours which are listed in the survey, have been noted as pertaining mostly to underachieving gifted students, but these can also be displayed by any gifted student. All the questions (or characteristics) Penny commented on were variable, and could be attributed to an individual's disposition or their inherent

qualities of mind and character. These questions could be answered by ticking both true and false, which is how Penny responded to them.

5.3.4: Teachers need to know their students

Teachers need to be aware of their student's needs and abilities, and what learning environment is conducive to their individual circumstances. There are many aspects of a student that teachers need to know. According to Rusch (2020), teachers need to know characteristics about their students, including their motivations, their expectations, their code of honour, and whether they are collaborators in their learning. Importantly, teachers need to know student's bad habits (including deliberately underachieving), motivation and learning style.

With this in mind, many participants were thinking about their students when filling in the survey. For the pre-survey, some participants who made written comments on the survey sheet. Chris, for example commented on 16 questions with '*some do, some don't*' or '*sometimes, but not all*' (Chris 2019, interview, 16 October). He believed these questions could be either true or false depending on the student, so he chose to mark the survey questions true/false. Dana wrote '*can present these characteristics at times*', referring to all the questions but marked them all false. Eric commented that he had '*no real opinion*' with many questions, verbally commenting the response for those questions could go either way (true/false); and Finn wrote two comments: '*some have eloquent [elaborate, verbal ability] and some won't speak*' and he believed that gifted students are good memorisers '*only for their interests*' (Finn 2019, interview, 11 November). Grace commented on four questions: she believed that gifted students only enjoyed '*elements of school, certain subject areas*'; gifted students enjoyed only being with '*like-minded peers*'; gifted students have no behaviour problems when they are '*stimulated and engaged*'; and gifted students find school boring '*at times*' (Grace 2019, interview, 11 November). These comments are based on the teachers' knowing aspects of their students and being able to understand their student's learning needs to combat any issues that might arise (Teacher agency).

Unless teachers know their students, it would be difficult to respond to the statements or questions contained in the resources of the toolkit, and ultimately detrimental to students who could be gifted. The comments the participants made on the survey sheet and verbally about the survey questions, was about their own knowledge of giftedness (the iterational dimension). This is also about knowing aspects of giftedness. However, most of the participants did not know about the different aspects of underachieving gifted students, especially the negative behaviours associated with them (this is discussed further in Chapter Six).

5.3.5: *All students are individuals*

An important aspect of answering the survey questions was being able to understand and relate the characteristics and behaviours of the various types of giftedness to their students. This includes realising that all students are individuals, and the characteristics and behaviours that one student may display, may not be seen in another student. Teachers knowing who their students are as individuals helps them to differentiate tasks and pedagogy, and this in turn allows students to learn alongside other students with different needs. This provides minority groups such as gifted students, equal access to opportunities and resources when they may otherwise feel excluded.

The participants were able to answer many of the survey questions when they related questions to their students. This is an example of the value of knowing individual students in the classroom. Thinking more about individual students enabled the participants to write comments about the questions in the survey. Knowing who students are as individuals and using different teaching strategies enables students to be engaged with their learning. When teachers allow for differences in their students, such as a student who may be disruptive or shy, or a student who does not like to work in groups, this can help the students develop the confidence and skills they need to experience success. When students are quiet and do not speak up or are disruptive, teachers may need to have face-to-face conversations with these students to find out more information. This includes knowing students' interests. Kerry commented that teachers need to 'sit and have a chat' when particular characteristics are displayed.

Teachers who know their student's interests can provide students with learning opportunities that will more likely keep students engaged. Providing students with these learning opportunities gives students the ability to explore further their interests and develop their skills and knowledge. This may then lead to students wanting to learn other areas of the curriculum. Using various 'teaching strategies can help all students experience success while developing their confidence in other areas' (Reachout schools 2022, Learn who your students are as individuals, para. 2).

Some of the participants were able to identify students who displayed some of the characteristics and behaviours of giftedness. For example, referring to '*not working well in groups*', Chris stated that not all gifted students work well in groups, and Kerry identified that her student '*prefers working on his own*'. Kerry identified that her student does not like it when put in to a group and works better when he is by himself. She also knew her student does not like physical education classes. Kerry knew information about her student that could help her plan for his needs. She believed teachers need to '*throw some different challenges at them...to encourage and inspire them*' (Kerry 2019, interview, 12 December). May identified two boys in her class who, she believed, '*have elements of being gifted*' (May 2019, interview, 11 December). She found that these boys were a '*disruption to others*' during group time. In other words, they did not work well in groups.

5.4: Comparison of individual choices

As mentioned, initially the participants' responses were compared individually to those of Oscar and to Penny. Using the experts as an indication of a positive set of responses allowed the researcher to establish if knowledge was gained as the direct result of using the toolkit. Table 10 denotes the number of true, false, or true/false responses each participant had for the pre-survey and post-survey. This table displays the number of responses that each participant received when compared to the expert's responses. For example: Compared to Oscar, Dana had 7 agreed responses for the pre-survey but after the intervention the number of agreed responses increased to 14. Compared to

Penny, Dana had 14 agreed responses for the pre-survey and after the intervention had 16 agreed responses.

After the intervention, the results show there were five participants who agreed more with Oscar's responses (Dana, Finn, Jayne, Kerry and Luke); Alan, Betty and May had fewer agreed responses for the post-survey; and Chris, Eric and Grace scored the same for both the pre-survey and post-survey. When compared to Penny, there were also five participants who agreed more (Alan, Chris, Dana, Grace and Kerry) after the intervention. These results indicated that these participants increased their awareness of giftedness after the intervention when compared to Oscar and Penny's responses.

Table 10: Response of Each Participant Compared to Each Expert.

Participant	Agreed with Oscar								Agreed with Penny							
	Pre-survey results				Post-survey Results				Pre-survey results				Post-survey results			
	T	F	T/F	No.	T	F	T/F	No.	T	F	T/F	No.	T	F	T/F	No.
Alan	2	6	0	8	1	5	0	6	4	10	0	14	1	14	1	16
Betty	11	6	2	19	7	7	1	15	16	5	1	22	9	6	1	16
Chris	10	6	0	16	10	4	2	16	9	2	0	11	10	3	2	15
Dana	0	7	0	7	5	3	6	14	0	4	0	4	5	3	5	13
Eric	9	3	6	18	10	3	5	18	10	3	8	21	14	4	2	20
Finn	4	5	2	11	1	0	14	15	6	4	6	16	1	0	4	5
Grace	16	3	0	19	12	4	3	19	16	2	0	18	15	3	5	23
Jayne	17	4	0	21	18	4	0	22	19	2	0	21	17	1	0	18
Kerry	10	6	1	17	16	4	0	20	9	4	1	14	14	2	0	16
Luke	12	4	3	19	14	7	3	24	14	4	3	21	13	5	1	19
May	14	4	1	19	3	7	2	12	14	2	0	16	5	5	1	11

Note # T = True; F = False; T/F = True/False; No. = number of questions agreed

One participant (Finn) showed the most changes after the intervention. He had changed most of his responses for the post-survey to true/false. When compared to Oscar's

responses, Finn's responses increased from 11 to 15 agreed responses after the intervention. However, when compared to Penny's responses, Finn decreased the number of agreed responses after the intervention. He went from 16 agreed responses pre-survey to only four agreed responses post-survey. In fact, he disagreed with Penny because of changing nearly all his responses to true/false. While many of the questions are attributable to both true and false, the experts have responded to many of the survey questions with either a true or a false. Other participants also had similar results. For example, when compared to Oscar's responses, Chris had 16 agreed responses for the pre-survey and after the intervention he still had the same number of responses. However, when compared to Penny's responses Chris had 11 agreed responses for the pre-survey and 15 agreed responses for the post-survey. This indicated Chris had no change in his awareness of giftedness when compared to Oscar's responses but increased his awareness after the intervention when compared to Penny's responses. There were only two participants (Dana and Kerry) who increased their agreed responses with both experts after the intervention. Dana went from seven to 14 agreed responses with Oscar, and from four to 13 agreed responses with Penny; and Kerry went from 17 to 20 agreed responses with Oscar, and 14 to 16 agreed responses with Penny. This is important because it shows that results are dependent on who is performing the evaluation.

The results show there are multiple increases in agreed responses with the experts after the intervention. This indicates the participants now believe there are behaviours and characteristics of giftedness that before the intervention they did not know, or did not realise, could be associated with gifted students, especially with the aspects of underachieving gifted students.

5.4.1: Individual results using average percentage

While the teachers made multiple changes in their responses from pre-survey to post-survey, Table 11 denotes the changes each participant has made when compared to Oscar and Penny's responses. These changes have mostly come about because of using the resources in the toolkit. The following average percentages reveal how the

participants went when compared with the experts for the questions from both surveys (average percent): Alan 27.5%, Betty 45%, Chris 36.3%, Dana 23.13%, Eric 48.13%, Finn 29.38%, Grace 49.38%, Jayne 51.25%, Kerryn 41.88%, Luke 51.88% and May 36.25% (Table 11).

Table 11: Percentage of Agreement between the Participants and the Experts

Participants	% Agreed with Oscar		% Agreed with Penny		Avg % agreed with Experts Pre-survey	Avg % agreed with Experts Post-survey	Total Avg % Agreed with experts
Alan	20	15	35	40	27.5	27.5	27.5
Betty	47.5	37.5	55	40	51.3	38.8	45
Chris	40	40	27.5	37.5	33.8	38.8	36.3
Dana	17.5	35	7.5	32.5	12.5	33.8	23.1
Eric	45	45	52.5	50	48.8	47.5	48.1
Finn	27.5	37.5	40	12.5	33.8	25	29.4
Grace	47.5	47.5	45	57.5	46.3	52.5	49.4
Jayne	52.5	55	52.5	45	52.5	50	51.3
Kerryn	42.5	50	35	40	38.8	45	41.9
Luke	47.5	60	52.5	47.5	50	53.8	51.9
May	47.5	30	40	27.5	43.8	28.8	36.3

Note # Avg = Average; All percentages rounded to one decimal place

To obtain this result for every participant, an average percentage is used. This is because many of the participants' percentage results were different with Oscar than they were with Penny (Table 11). The average percentage was worked out by adding together all four percentage results for the pre-survey and then again for the post-survey, this was then divided by four. For example, when all of Alan's percentage results are added together then divided by four $[(20\% + 15\% + 35\% + 40\%) \div 4]$, his average works out to be 27.5%. This will show the number of survey questions that

each participant received when compared to the experts' responses. That is, working with Alan's average percent of 27.5%, he obtained 11 out of 40 agreed responses when compared to the experts; Grace's average percent of 49.4% means she obtained approximately 20 of the 40 questions in the survey. The average percentage

5.4.2: Increase and/or decrease in agreement with the experts

There were participants who had mixed results compared with the experts. Some participants increased the number of agreed responses with one expert yet the same participants decreased the number of agreed responses with the other expert. Other participants increased the number of agreed responses with both experts. For example, Betty's post-survey percentage was slightly better with Penny (40%) than it was with Oscar (37.5%). Her average percentage was 38.75. This equates to approximately 16 questions out of the 40 questions for the post-survey. Chris' percentage was better with Oscar (40%) than it was with Penny (37.5%), he also got 16 out of 40 questions when compared to the experts. Only two participants (Jayne and Luke) obtained results of more than 50% (average percentage) when compared to the experts (Table 11). In other words, these two participants agreed with the experts on around twenty of the forty questions (Jayne obtained an average of 51.3% which equates to 20.5 questions and Luke obtained an average of 51.9% which equates to 20.8 questions).

There were two other participants (Eric and Grace) who came close to getting 50% (48.1% and 49.4% respectively). This equates to 19.2 questions for Eric and 19.8 questions for Grace out of the 40 questions. The rest of the participants' results ranged from approximately nine to 18 questions out of the 40 questions when compared to the experts' results. Grace's results compared to the experts are very interesting. Her results show she did not change in the percentage of her agreement with Oscar after the intervention. However, Grace showed she had increased her percentage of agreement after the intervention from 45% to 57.5% with Penny. This is an increase of 12.5% or Grace agreed with the experts with five more questions.

Apart from Finn, Dana had one of the most changes in her results from pre- to post-survey. She increased her agreement dramatically with both experts after the intervention. With Oscar, Dana's results went from 17.5% to 35%. This is an increase of 17.5% or an increase of seven more questions. Her results were even more dramatic with Penny. Dana's results went from 7.5% to 32.5%. This is an increase of 25% or an increase of 10 more agreed questions. All these results have indicated the intervention has influenced the participants' choice of response and their ideas of giftedness.

5.5: Participants' changed response

Alan, who was considered to have limited knowledge on underachievement and giftedness, had one of the lowest number of changes. He changed responses for four questions with two of these changed to true/false. Alan was initially not able to implement the toolkit instructions because he possibly misunderstood them or it was too difficult to find the time to implement the resources. Alan had not implemented any of the suggested resources when the researcher revisited him at his school (with his permission) mainly to provide additional explanations. He was then able to get his class to answer the questions in a self-nomination form. He stated he used this resource because it *'was easy to use as it took 10 minutes of time in the classroom'* (Alan 2019, interview, 1 November). This was the only resource he implemented. He was the only participant that had no change in the number of responses that agreed with the experts from pre-survey to post-survey (27.5%). This has indicated he gained no insight or knowledge from using the toolkit when compared to the expert's responses. However, Alan did comment he would use the toolkit in the future.

Betty changed her response for 40% of the questions with the post-survey. She was initially considered to have emergent knowledge on giftedness by the researcher, but her results with the post-survey compared to the experts did not confirm this assessment. Betty's results showed she performed better in the pre-survey (51.25%) compared to the post-survey (38.75%). Although this was the case, Betty believes she has a stronger or better understanding of giftedness, especially with the characteristics of an underachieving gifted student.

Chris changed his response for also 40% of the questions from pre-survey to post-survey. He believes, that by using the toolkit, his ideas around the characteristics of giftedness have changed and that is why his answers changed for the post-survey. As Chris stated in the interview '*it has broadened my knowledge*' (Chris 2019, interview, 16 October). Chris' pre-survey results compared with those of the experts was 33.75%, but after implementing the intervention, his post-survey results increased to 38.75%. Albeit only minor, the results have shown his knowledge on underachievement and giftedness has increased.

Dana showed multiple changes from pre-survey to post-survey. She changed her response for just over 42% of the questions. Dana had been listed as having limited knowledge on giftedness by the researcher, and based on comparisons with responses made by Oscar and Penny. Her changed responses after the intervention indicated her results agreed with the experts for 33.75% of the questions, whereas her pre-survey results only agreed with the experts by 12.5%. Before using the toolkit Dana thought she had a '*pretty decent understanding of giftedness*' (Dana 2019, interview, 16 October). After the intervention she said she believed she was thinking more about behaviours which could indicate giftedness, including when '*your child is presenting with a bit of a challenge*' (Dana 2019, interview, 16 October). This indicates that Dana increased her knowledge of underachievement and giftedness, implying the toolkit increased Dana's understanding on these issues by just over 21%.

Eric commented on many of the questions in the survey during the initial meeting and the post-intervention interview. He stated that he had '*no absolute opinion*' (Eric 2019, interview, 16 October) for the pre-survey. This was a critique regarding the questions, which resulted in him marking many questions true/false. This was typical for many of the participants with a lot of the questions. They felt that some of the questions would depend on the individual being assessed, rather than what is commonly thought of or what characteristics they do possess. Eric initially had no opinion for either true, false or both for the pre-survey on over 40% of the questions, but after the intervention he

changed his mind on nearly 65% of these questions. Eric believed the toolkit changed his mind-set by forcing him to put aside what he had originally thought, to include more important or more credible issues of giftedness. His results compared with the experts for the pre-survey and post-survey were similar (48.75% pre-survey and 47.5% post-survey). Eric commented on having professional knowledge on giftedness, which had developed because of personal interest. He was put in the emergent group because of his responses during the initial meeting, where he commented on many of the questions.

The next participant, Finn had similar responses to Oscar and Penny's responses for the post-survey. This was because Finn had responded to the post-survey, by marking his responses both true and false for all questions, except for the last question. Finn stated in an email '*To my mind there is no one response...Looking at the questions, they apply to some students, but not all*' (Finn 2019, interview, 11 November). Finn had been teaching for 15 years mostly as a general classroom teacher and was currently teaching in the role of a specialist teacher. He commented on knowing about different aspects of giftedness, and said that he had taken an interest in gifted education all his adult life. Because of this, Finn was allocated to group 2, but his responses for the post-survey would change this position. He changed his response to more than half of the survey questions (twenty-three changes) from pre-survey to post-survey. Finn's results for the pre-survey when compared with the experts was 33.75%, but his results for the post-survey was less, down to 25%. This happened because he marked all his responses in the post-survey (except for Question 40) true/false. Finn believed gifted students can exhibit any of these characteristics and behaviours at times.

Initially, Dana and Grace were considered to have expert knowledge on giftedness by the researcher, but it was the comparison of Oscar and Penny's responses that underpinned the participants' allocation to different groups. Although Grace thought she did not know a great deal about giftedness, Grace's responses during the initial meeting, resulted in her being allocated to group 3. Even though this was the case, she made multiple changes from the pre-survey to the post-survey. Grace changed her response for 40% of the questions. These results have shown she had increased her

knowledge by more than 6% (46.25% pre-survey to 52.5% post-survey). Jayne did not make as many changes, but because of her responses during the initial meeting, she was allocated to group 2. Likewise, Alan also made four changes in his responses from pre-survey to post-survey. Jayne's results from pre-survey to post-survey compared to the experts, show there was no real change in awareness of either underachievement or giftedness (52.5% pre-survey down to 50% post-survey).

Kerryn changed the response for nearly a third of the questions from pre-survey to post-survey. She had increased her knowledge from 38.75% pre-survey to 45% post-survey. Luke was another participant who made many changes to the post-survey. Even though he changed the response for more than a third of the questions, the results showed he only slightly increased his percentage when compared to the experts' responses, after the intervention (50% pre-survey to 53.75% post-survey). The last participant May, made the most changes in the post-survey, with 70% of the questions changed. From all these changes, May agreed with the experts on just over half of the questions. Her results show she performed the worst, out of all the participants (43.75% pre-survey and 28.75% post-survey) against the expert's responses. All of the participants made changes for their responses from pre-survey to post-survey, with many of the participants increasing their awareness and knowledge after using the toolkit.

5.5.1: *Combined pre-survey responses*

Before completing the survey questions, all participants were told to answer the survey by thinking about each question as referring to 'most' gifted students. When a participant commented about being undecided about whether a question was true or false, they ended up marking it both true and false because they thought it could be either. The experts also marked many questions with both (true/false). There were six participants who commented on some of the wording of the survey, which according to them made it harder to decide on an answer; for example, they asked what 'unusual' meant or what 'special' meant. Chris commented that most of the questions can apply to some gifted students, but not all; Dana commented that gifted students can present most of these characteristics at times, but also commented that there were questions

which were harder to answer; Finn said that some gifted students *'have eloquent verbal ability yet some won't speak'* (Question 20) and gifted students are good memorisers only for their areas of interests (Question 20); Grace commented on four questions: *'gifted students enjoy elements of school'*, *'gifted students enjoy like-minded peers'*, *'gifted students have no behaviour problems if stimulated and engaged'*, and *'gifted students find school boring at times'*; and Kerry underlined and commented on the wording of some of the questions: use of the word 'unusual' and the word 'special'. She felt that using these words made evaluating the questions harder, because what she would consider as unusual, may not be considered as unusual by someone else. She also underlined other words: 'silly', 'self-esteem', and 'others' needs'.

The participants gave varying responses for the questions in the pre-survey, but based on the majority of responses, every question was allocated an answer according to their combined responses (True, False or True/False). The expert's responses were used for comparative analysis against the participants' responses. For example, with Question 1 the participants chose mostly false as did the experts. In this case, many of the participants did not believe that gifted students get excellent grades in all major subjects. The participants were divided on Question 3, the participants were divided with this question, making the answer to this question true/false. Their response was the same as Oscar's, but Penny believed the response should be false. Whether or not gifted students complete all classwork and homework depends on the individual. This is also one of the questions where the use of the word 'usually' became an issue with some of the participants.

Although there were differences in the pre-survey between the experts and the participant's responses, the participants agreed with the experts on a total of 25 questions: of these 18 questions resulted in a true response, six questions resulted in a false response and one question resulted in a true/false response.

5.5.2: Combined post-survey response

Completing the post-survey turned out to be very different for each of the participants. Each participant took a lot less time to complete the post-survey (on average 15 minutes for the pre-survey, and an average of 7 minutes for the post-survey). The participants seemed more confident with their choices for the post-survey, than when they completed the pre-survey. This resulted with only one teacher (Kerryn) commenting about the post-survey. Kerryn wrote comments on four questions: *'works well in groups but prefers working on his own'*, *'physical education classes are not his favourite'*, *'enjoys his own company'*, and *'does not learn by repetitive tasks'*. Kerryn made these comments regarding her possibly gifted student, who lived with autism. No other participant made any comment or asked any questions, while filling in the post-survey.

All the participants showed multiple changes in responses to the survey questions, after they had implemented the intervention (Appendix F). Most participants again chose to mark true/false for many responses. In fact, more questions were given a true/false response. This was definitely the case with Finn who changed all his responses to be true/false after the intervention, except for the last question. He believed every question, from 1 to 39, could be either true or false because those questions *'can apply to some, but not all'* (Finn 2019, interview, 11 November). In other words, he believed it is dependent on the individual being assessed. In an email, Finn, who was considered in this study to have emergent knowledge on giftedness, stated *'In my experience, to my mind there is no one response...my answers are drawn from all my research'* (Finn 2019, interview, 11 November). He also stated *'what one gifted student does, can be completely different to another gifted student'* (Finn 2019, interview, 11 November).

The participants' combined post-survey responses indicated that many of the responses had changed and were more in agreement with the experts. For example: The participants at this point mostly believed that gifted students do not usually complete all classwork and homework. They went from a true/false response (pre-survey) to a false response (post-survey) which agreed with the experts. At this stage, the participants

were mostly divided about gifted students enjoying tests. The participants' pre-survey result was false but for their post-survey result, the participants mostly chose true/false. The experts had also chosen true/false for their response, and for the post-survey more participants believed gifted students could exhibit low self-esteem. The experts also chose true.

5.6: Pre/post-survey findings

Once all the data for the pre-survey and post-survey was analysed, there were many changes. For the pre-survey the participants believed 20 questions to be true – 16 questions to be false, and four questions true/false. There were also questions where the participants had an identical percentage result for the same question. This meant there were an equal number of participants who chose true, false, or true/false. For example, on Question 23 the participants chose false and true/false (false = 36.4% and true/false = 36.4%) which resulted in a false response; for Question 31 they chose true and false (true = 45.5% and false = 45.5%) which resulted in a true/false response; and for question 37 the participants chose true and false (true = 45.5% and false = 45.5%) which also resulted in a true/false response (Table 14). Questions 23 and 26 can be described as false by using the same method as for the expert's responses. Both Questions 31 and 37 can be described as true/false because the participants were equally divided with their responses for true and false with the pre-survey.

After using the toolkit (intervention), there were 13 true combined responses, 19 false combined responses and eight true/false combined responses (Table 12). Among these results there were also questions where the participants had the same percentage result. For example, these questions included: Question 16 (false and true/false were both 36.4%); Questions 25, 26 and 34 (true and false); so that Questions 25, 26 and 34 can be described as true/false because the participants were equally divided with their responses (true was 36.4% and false was 36.4%). After using the toolkit, the participants changed their opinion on 13 questions in the post-survey. For example: Question 3 was initially true/false, then after the intervention was changed to false. This change agreed with the experts. Question 8 was initially regarded as being false, but

Table 12: Survey questions and combined responses

Survey Questions		Combined Responses		
		% Participants agreed	% Experts agreed	Is it True, False or True/False?
1	Get excellent grades (A's) in all major subjects. (Language, Arts, Math, Science, etc.)	55% for False	75% for False	False
2	Have high verbal ability and can discuss in elaborate detail.	55% for True	100% for True	True
3	Usually completes all classwork and homework.	55% for False	75% for False	False
4	Read well about a number of subjects, or one to a greater degree.	64% for True	100% for True	True
5	Are highly critical of themselves (have high expectations).	55% for True	100% for True	True
6	Work well in groups	64% for False	75% for False	False
7	Have wild, silly ideas.	73% for False	75% for False	False
8*	Enjoy tests	46% for T & F	True & False	True/False
9	Are helpful to teachers and other students.	55% for False	100% for T/F	True/False
10	Have good attendance.	46% for True	100% for T/F	True/False
11	Constantly asks questions that are unusual.	46% for False	75% for True	True
12	Can exhibit low self-esteem	64% for True	100% for True	True
13	Stay on task for extended periods	36% for T & F	100% for True	True
14	Prefers to be alone and do independent tasks.	36% for T & F	100% for True	True
15	Have a great sense of humour - loves to joke, pun and wisecrack.	55% for False	75% for True	True
16	Work hard	36% for F & T/F	75% for True	True
17	Are the first to answer questions.	55% for False	75% for True	True
18	Copies work accurately	46% for T & F	75% for True	True
19	Question teacher and rules.	46% for False	75% for True	True
20	Are good memorisers.	55% for True	100% for True	True
21	Enjoy physical education classes.	64% for False	75% for True	True
22	Have good penmanship.	55% for False	75% for True	True
23	Are sensitive to other's needs and to current events	46% for False	100% for True	True
24	Learn to read early.	46% for True	75% for True	True
25	Enjoy school	36% for T & F	75% for False	False
26	Enjoy being with peers.	36% for T & F	75% for True	True
27	Are motivated by rewards from teacher or parent.	82% for False	100% for False	False
28*	Have no behaviour problems.	64% for False	True & False	True/False
29	Can have learning disabilities	73% for True	75% for True	True
30	Exhibit special skills, unusual for age	82% for True	100% for True	True
31	Exhibit daydreaming behaviour.	46% for T/F	75% for True	True
32	Find solutions in different ways using common materials.	64% for True	100% for True	True
33	Have limited areas of interests.	46% for False	75% for False	False
34	Prefer structure, organisation, and consistency.	36% for T & F	75% for True	True
35	Find school boring.	46% for False	75% for True	True
36	Like to take risks and apply themselves.	64% for False	100% for T/F	True/False
37	Can be disruptive in class.	55% for True	100% for T/F	True/False
38	Enjoy repetitive tasks.	73% for False	100% for False	False
39	Like to be challenged.	46% for True	75% for True	True
40	Have complex thoughts and ideas.	73% for True	100% for True	True

Note # * For Questions 8 and 28 the experts were 50/50 for T and F

after the intervention the participants changed their combined response to true/false. This change agreed with the experts.

After implementing the toolkit, the participants changed their response for many of the questions in the survey. The pre- and post-survey results indicated that most of the participants were aware of less than half of the characteristics and behaviours listed in the survey. The pre-survey and post-survey data sets resulted in the percentages displayed for each question (Table 12). Some of the questions resulted in having the same percentage. For example: Question 16 resulted in a false at 36.4% and a true/false at 36.4%, this meant the participants were divided with this question, which resulted in their combined response being false. Question 18 resulted in a true at 45.5% and a false at 45.5%, indicating the participants were divided on this question, which resulted in their response being deemed true/false. Using average percentage enabled a true, false, or true/false response to be allocated for each question.

The survey results have been correlated using IBM SPSS Statistics software platform. This software can improve research outcomes by investigating the data statistically, making sense of patterns and enabling the researcher to draw conclusions and make predictions (IBM corporation 2020). Using numerical data for the participants, the experts, and their combined responses has allowed for the results to be self-explanatory, as opposed to using terms such as, some, often, most.

Graphical representation of the data (data refers to the information obtained through the survey), provides a visual way to understand and comprehend patterns in the data. Visualisation of the data can make it easier to see similarities, differences, and trends in a most effective and efficient way. The following figures represent examples of the results obtained through the pre-survey and post-survey responses incorporating Microsoft Excel. These figures or graphs have x and y axes. The x-axis (horizontal) represents the variable, that is, whether the response is true, false, or true/false, and the y-axis (vertical) represents the frequency, that is, the percentage of participants that chose that particular response for the pre- and post-survey. For example: Figure 8,

which represents Question 8 of the survey, shows more participants chose false in the pre-survey than in the post-survey. However, after the intervention the participants ended up being divided between true and false. This indicates that some participants who did choose false initially now thought the response is true. These participants had changed their ideas about gifted students liking tests. Figure 9, which represents question 29 of the survey, shows that more participants chose true for the post-survey than the pre-survey. There are now more participants who believe gifted students can have learning disabilities. For example, the following figures represent questions where the results were clearly either true or false or true and false. To reiterate, this research was a small-scale study with 11 participants and before the participants answered the survey questions, the researcher reminded the participants:

‘What characteristics do **‘most’** gifted students possess?’

Figure 7: Question 4 – Do gifted students read well about a number of subjects or one to a greater degree?

The pre-survey and post-survey responses to Question 4 (Figure 7) show that the participants chose mostly true for the pre-and post-survey. After the intervention there were fewer participants that chose true and more chose true/false. Both experts agreed the response was true: Oscar chose true because he *‘never stopped reading voraciously about all types of history, novels, newspapers’* (Oscar 2019, personal communication, 11 November), and Penny chose true but commented *‘usually but depends’* (Penny 2019, personal communication, 11 June). Most of the participants and the experts were certain about gifted children being able to read well. Possibly, this question should have been divided into two questions: Do gifted students read well about a number of subjects? And, do gifted students read well about one subject to a greater degree? This question may have been easier for the participants to respond to if they had been two individual questions.

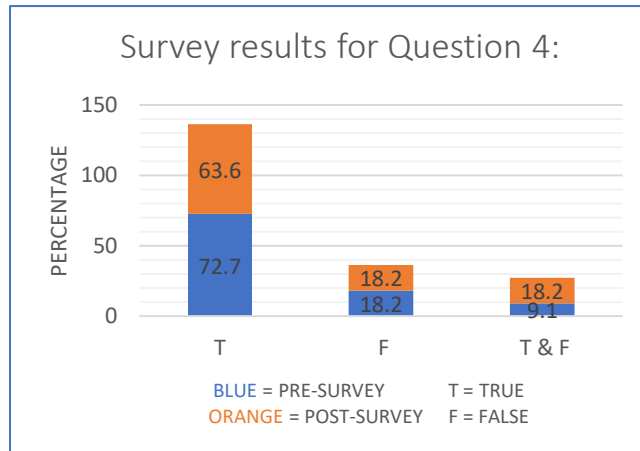


Figure 8: Question 8 – Do gifted students enjoy tests?

In respect of Question 8 (Figure 8), most of the participants chose false for the pre-survey (72.7 %) but after the intervention the participants chose equally true (45.5%) and false (45.5%) with no statistical significance. This means fewer participants have chosen false and most have opted for true. This is only one of two questions where the experts disagreed (Oscar chose false and Penny chose true). Technically this means 45.5% of the participants agreed with Oscar and 45.5% of the participants, agreed with Penny. In other words, the participants agreed with the experts for the post-survey. Many gifted students do not enjoy tests (Baslanti 2008), because many of them have a fear of failure (Neihart et al. 2002).

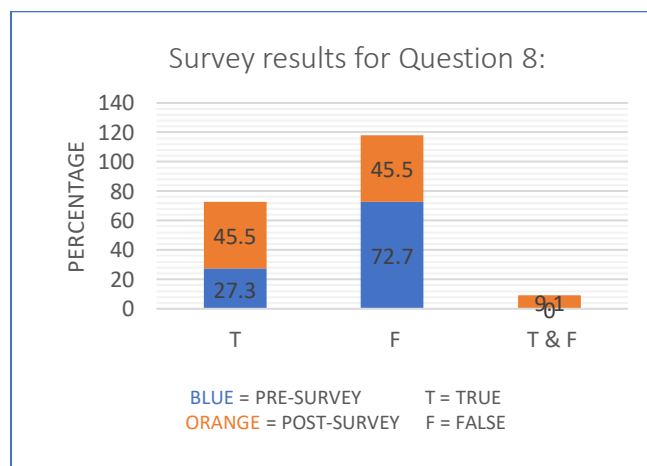


Figure 9: Question 29 – Can gifted students have learning disabilities?

Figure 9 shows that for Question 29, the participants mostly chose mostly true for both the pre-survey and the post-survey. The same number of participants chose true/false. Although the results show it was not significant for true in the pre-survey, the results for the post-survey show the results are now significant for true compared to false and true/false. This means that after the intervention, fewer participants chose false and more participants chose true, indicating the intervention has changed the opinion of some participants to understanding that gifted students can have learning disabilities. The experts combined response (75%) was also true (Oscar chose true/false and Penny chose true). Penny believed, as did the participants, that students of all abilities can have learning disabilities. The researcher believed that Oscar misread the question and answered the question thinking that some gifted students can have learning disabilities and some gifted students do not have learning disabilities.

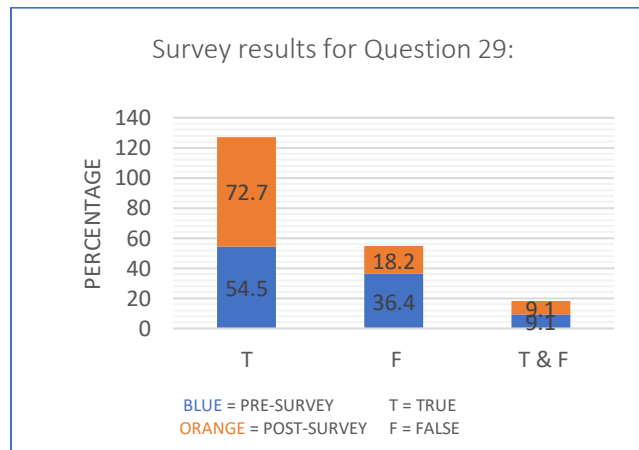


Figure 10: Question 36 – Do gifted students like to take risks and apply themselves?

Figure 10 indicates for the pre-survey more participants (54.5%) chose false compared to true or true/false for Question 36, but after the intervention less participants chose true and more participants (63.6%) believed the response should be false. There were some participants who decided the response should be true/false. Both experts believed the response to this question is true/false. Many gifted students like to apply

themselves, but many gifted students especially underachieving gifted students do not like to take risks.

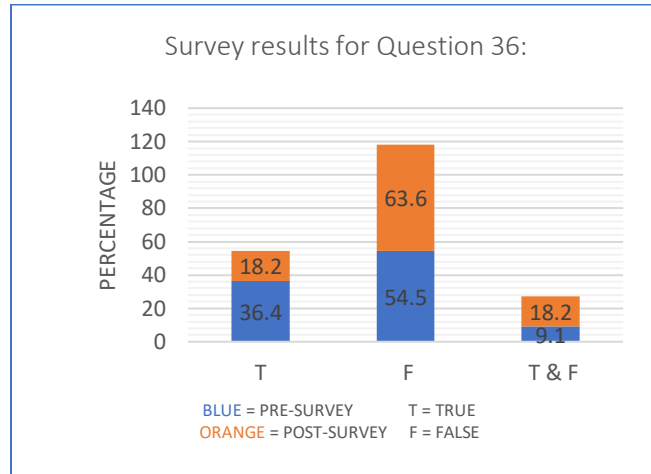
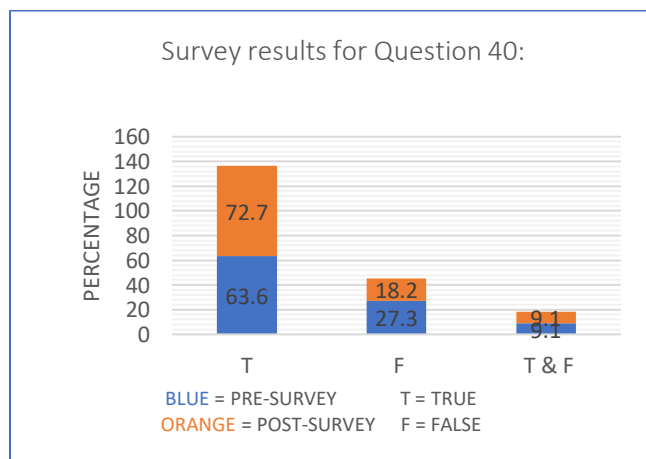


Figure 11: Question 40 – Do gifted students have complex thoughts and ideas?

The results for the Question 40 (Figure 11) were not significant between true and false for the pre-survey, but after the intervention the post-survey results were significant for true. This is because more participants chose true for the post-survey than for the pre-survey. The experts also agreed that the answer is true. A gifted student, whether they are underachieving or not, can have complex thinking (logical approaches to complex problems), understand concepts and can generate original ideas.



These figures have allowed for a visual representation of the results. The graphs and percentages show how the intervention has changed the opinions of most of the participants.

5.7: Disagreed with the experts.

One outcome expected from the participants using the toolkit was that their ability to identify giftedness would increase. Another way to investigate this would be by measuring the range of participant differences in the pre-survey against the differences in the post-survey. Differences in this instance were when the participants’ responses differed to the experts’ responses. Investigating the disagreed responses was another method (for triangulation) to determine the results of the intervention. This was measured by comparing the participants’ disagreed responses to the 40 questions in the pre-survey and post-survey with the expert responses. Each of the 11 participants completed the pre-survey with a total number of responses being 440 (11 teachers X 40 questions); the post-survey also resulted in a total of 440 responses (11 teachers X 40 questions). Table 13, displays the results obtained when true/false responses are considered either a true or a false. This also happened when Oscar and Penny’s responses were compared to one another. Referring to Table 13, the participants showed a total of 134 differences for the pre-survey compared to the experts and this was reduced to a total of 115 differences for the post-survey.

Table 13: Range of differences where True/False = a True or a False

Number of Participants	Pre-survey		1		1	2	2	2				1		1	1
	Post-survey	1			2	1	2	2	1		1			1	
		0	2	4	6	8	10	12	14	16	18	20	22	24	26
Number of differences															

Table 13, contains the information about the frequency of differences in both the pre-survey and post-survey. The range of differences in the pre-survey was between 2 and 26; and the range of differences in the post-survey was between 0 and 24. There were three participants in the pre-survey who had between 18 and 26 differences; and there was only one participant in the post-survey who had differences in that same range. These results show the number of differences decreased after using the intervention; that is, some participants had less differences in the higher range group with the post-survey than they did for the pre-survey.

Table 13, contains the information about the frequency of differences in both the pre-survey and post-survey. The range of differences in the pre-survey was between 2 and 26, and the range of differences in the post-survey was between 0 and 24. Three participants in the pre-survey who had between 20 and 26 differences, and only one participant in the post-survey showed differences in that same range. These results demonstrate that the number of differences decreased after using the intervention; that is, some participants had fewer differences in the higher range group with the post-survey than they did in the pre-survey.

When comparing various ranges, the results are not very different. Between the 0 to 14 range for the pre-survey there are eight participants, whereas between the same range in the post-survey, there are nine. This means one more participant had less differences in the post-survey for this range. Within the 14 to 20 difference range in the pre-survey there is one participant, whereas in the post-survey in the same range there are two participants. Combining these two ranges (0 to 20 difference range), there are nine participants in the pre-survey who differed in their responses compared to the experts, whereas in the post-survey the same number of participants had the same number of differences. Even though there is the same number of participants in this difference range (0 to 20), one participant had the least number of differences in the post-survey, or to put it another way, that participant increased their consistency to agree with the expert's responses.

The next table (Table 14) follows on from Table 13. Whereas, Table 13 included true/false as the correct response for either a true or a false, Table 14 excludes this. True, false, and true/false are all individual responses in this table, where true/false is not the same as either a true or a false. Using the same difference range for easier comparison of the results between Table 13 and 14, Table 14 shows that no participant had less than 12 differences when compared to the experts' responses (all of the participants had more than 12 of the 40 survey questions as different to the experts); six participants had more than 20 differences in the pre-survey; seven participants had more than 20 differences for the post-survey; and one participant had more than 32 different responses for the post-survey.

It should also be noted the same number of participants also had less than 24 differences for the pre-survey and the post-survey. As with Table 13, Table 14 results can also be different depending on the choice of range. The comparison of Table 13 to Table 14 shows the participants had fewer differences when true/false equalled either a true or a false than when true/false did not equal a true or a false. The results of true/false being a separate choice for the participants and the experts shows that the participants disagreed with the experts on many more questions (i.e., Compared to the experts' responses, Table 13 shows the participants scored no more than 26 differences when true/false equalled a true or a false and Table 14 shows they scored many more differences (34) when true/false did not equal a true or a false).

Table 14: Range of differences where True/False ≠ a True or a False

Number of Participants	Pre-survey								1	1	2	1	2		2		1	1	
	Post-survey									1	3		2	1	1	1		1	1
		0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
Number of differences																			

When true/false equalled a true or a false the average score of 12.6 (disagreed responses to the survey) pre-survey decreased to an average score of 10.9 post-survey. This indicated the participants disagreed with fewer questions after the intervention, consequently, increasing their understanding of giftedness when compared to the experts' responses. When true/false did not equal a true or a false the participants understanding of giftedness did not change.

5.8: Summary of changed and disagreed responses

Using multiple methods to understand the data, the researcher's confidence in the validity and viability of the results has certainly increased. The graphs have shown the participants have made many changes after the participants used the toolkit, and there were more participants that ended up agreeing more with the experts.

The participants' results meant there were as few as one different response to as many as 26 differences, when true/false was regarded as a true or a false; and the participants showed more than 12 different responses, and as many as 34, when true/false was a separate response. Having true/false as a separate response for the survey has meant the participants increased the number of responses that did not agree with the experts' responses even though the experts also answered questions with a true/false. The results where true/false is regarded as a separate choice (true/false \neq a true or a false) showed that the participants had no real change in their understanding of giftedness.

The participants' results for 'changed' response and 'disagreed' response (when true/false equalled a true or a false), have shown the participants have increased their knowledge on giftedness and are certainly more aware of characteristics and behaviours associated with underachieving gifted students.

5.9: Survey: is it true, false or both? Comparison of participants to experts.

When deciding on an answer, the experts' (Oscar and Penny) responses have been taken as the 'correct' response for this research, in order to be able to comparatively

analyse the experts' responses with the participants' responses. Oscar and Penny results showed they only totally disagreed on two questions (Questions 8: Enjoys tests and 28: Have no behaviour problems). For Question 8, Penny commented that gifted students usually enjoy tests but this depends on the individual, with Oscar commenting that he never enjoyed tests so he marked it false. The only reason they disagreed on Question 28, is because Oscar commented it was only in early childhood there were no behaviour problems. In this case Oscar believes this question is basically age related and behavioural problems can occur in later years, but not in early childhood. Realistically, he should have marked this question both true and false, but he marked it true. Oscar answered both questions based on personal experiences rather than on what most gifted students possess. Even with these two discrepancies, the experts have been able to respond to the survey questions (Table 8).

Two thirds of the questions had no change in combined response from pre-survey to post-survey. The participants did have the same response for 27 questions from pre-survey to post-survey, with the participants agreeing with the experts on 17 of them. Eight of these 17 questions had participants change their response to now agree with the experts. Of these 27 questions, 12 questions had the participants change their response to further agree with the experts. The participants have also mostly agreed with the experts on seven of these 27 questions (either the experts or participants chose true/false) and two of these questions had some participants change their response to agree further with the experts. The participants disagreed with the experts on three of these 27 questions but with two of them, there were some participants who had changed their response to further agree with the experts.

Comparing the expert responses with the participants' responses for the pre-survey, they have totally agreed on 23 questions (Table 12). Even though they have totally agreed with the experts on these questions, they have mostly agreed with the experts on 10 other questions. This is because either the participants or the experts have chosen true/false for their response. For example: Question 3, the participants chose true/false, Penny chose false and Oscar chose true/false. In effect, the participants

agreed with Oscar, but not with Penny for Question 3. On Question 8, the participants chose false and the experts chose true/false. On Question 18, the participants chose true/false, Penny chose true/false and Oscar chose true, and on Question 28, the participants chose false, Oscar chose true and Penny chose false. Therefore, the participants agreed with Penny but not with Oscar. This is essentially what has happened for each of the 10 questions where they mostly agreed. Including the questions where the participants and experts totally agreed and mostly agreed, meant they have agreed on a total of 33 questions.

The post-survey revealed that the participants changed their responses for 13 questions after implementing the toolkit. For example: Questions 3 and 8 changed from a disagreed response, to responses agreeing with the experts; six questions mostly agreed with the experts; and five of these questions now disagree with the experts. The participants thus agreed with the experts on a total of 19 questions. Moreover, the participants and experts mostly agreed on 13 questions. This happened when the experts chose true/false and the participants chose either a true or a false or the participants chose true/false and the experts had chosen either a true or a false. For example: Question 9 – the participants chose false and the experts chose true/false; Question 13 – the participants chose true/false and the experts chose true; and question 16 – the participants chose true, Oscar chose true and Penny chose true/false. This could imply the participants' responses did align with the experts because the answer could be either. Including the questions where the participants and experts have totally agreed and mostly agreed, meant they agreed with the experts on a total of 32 questions.

Table 12 also shows the participants were equally divided for eight questions. For example, with question 13 the participants scored 36% for both true and false. This meant the same number of participants chose true and the same number chose false. This resulted in this survey question having a response of true/false. With Question 16 the participants scored 36% for both false and true/false. This resulted in the survey

question having a false response; with Question 18 the participants scored 46% for both true and false. This resulted in the survey question having a response of true/false.

5.10: Analysis of results

The post-survey results show many participants became more aware of different characteristics and behaviours since completing the intervention. Even though the participants ended up getting one question less for the post-survey (33 questions to 32 questions), at this time more participants who have chosen responses to further agree with the experts. Many participants who disagreed with the experts chose a response that corresponded to the experts' response for the post-survey. There are also questions where the participants have agreed with the experts that show more responses that further agree with the experts. These questions included:

- A.** Questions the participants already agreed with the experts on in the pre-survey, now show more participants agreeing in the post-survey:
 - Question 1: False – less participants chose true;
 - Question 3: False – more participants chose false;
 - Question 8: True/False – less participants chose false and more chose true;
 - Question 12: True – more participants chose true;
 - Question 20: True – less participants chose false;
 - Question 29: True – more participants chose true;
 - Question 30: True – more participants chose true;
 - Question 32: True – less participants chose false;
 - Question 33: False – less participants chose true;
 - Question 40: True – more participants chose true;

- B.** Questions the participants disagreed with the experts on in the pre-survey, now show more participants agreeing in the post-survey:
 - Question 9: True/False – less participants chose true and less chose false;
 - Question 15: True – less participants chose false;
 - Question 21: True – less participants chose false;
 - Question 25: False – more participants chose false;
 - Question 26: True – less participants chose true/false and more chose true;
 - Question 34: True – less participants chose false.

As stated earlier, this means the participants did become more aware of many of the characteristics and behaviours associated with underachievement and giftedness. For example: Question 8 went from being false to true/false: Most gifted students enjoy having tests, but underachieving gifted students do not enjoy tests because they do not want their ability noticed or they do not want to fail. The participants now agree with the

experts with true/false; Question 9 – the participants had a strong response for false in the pre-survey and although the response for the post-survey was still false, it indicated more participants swayed away from false, with more agreeing with the experts' response of true (the pre-survey results for false was 63.6% and the post-survey results for false was 54.5%); Question 12 – the participants responded with a true for the pre-survey, agreeing with the experts, and with the post-survey the participants had a stronger response for true (pre-survey result for true was 54.5% and post-survey results for true was 63.6%); Question 21 – even though there were fewer participants for the post-survey who chose false, the post-survey still resulted in a false response which disagreed with the experts (pre-survey 81.8% for false, post-survey 63.6% for false); Question 25 went from true to true/false – although this question recorded a false by the experts, it shows more participants swayed away from true; Question 34 the results changed from false to true/false. This question was regarded as true by the experts, but it shows less participants chose false for the combined response, for the result to go from false to true/false (Table 12).

Although many of these characteristics and behaviours in the survey, are considered typical indicators for underachieving gifted students, the results imply that the participants are now more aware of different characteristics and behaviours of giftedness and the underachievement of gifted students. But, do the participants now know enough? According to Reis and McCoach (2002), Smutny (2001 & 2004), and Okoye, Henning and Benson (2019), there are many characteristics and behaviours which can impede identification of underachieving gifted students. The post-survey results have shown the participants disagreed with many questions when their results were compared to those of the experts. But there are 13 questions from these which could be construed as mostly agreeing because the experts or the participants responded with a true/false. This could mean that there are only eight questions on which the participants totally disagreed with the experts for the post-survey.

5.11: Summary of Chapter

Although some comments were made about the questions in the survey, and whether or not the results indicated true, false, or true/false, the survey results indicated that many of the participants now consider gifted students can possess many characteristics and behaviours associated with underachievement, that other gifted students do not display. This is about teachers knowing who their students are as individuals and being able to recognise and understand the characteristics and behaviours associated with giftedness. Underachieving gifted students are an elusive group of students but with the aid of the toolkit, the participants have increased their understanding of the behaviours and characteristics associated with the underachievement of gifted students.

Incorporating multiple methods for the pre-survey and post-survey – agreement and disagreement with the experts, investigating true/false equals a true or a false, and true/false equals a totally different response from true or false; using statistical methods and graphs to display the results – has enabled triangulation of the survey data in order to address the research question. These various methods were used for this research to discover if the participants had gained from the toolkit insight into the characteristics and behaviours of underachievement and giftedness, and ultimately to test the viability of the toolkit.

All the participants made many changes to their responses after implementing the toolkit. Although this study had a small sample size, the use of graphical representation of the results provided a clearer picture as to what the results mean. These results have indicated the participants increased their awareness of the characteristics and behaviours of underachievement, giftedness, and especially of an underachieving gifted student, after implementing the toolkit, and that these responses then aligned better with the experts' response.

The next chapter deals with the participants responses during the initial meeting, the interviews and fieldnotes. This data is investigated by analysing the participants

perceptions of giftedness and underachievement; their changed views on these issues; what resources were implemented and why; the participants ideas and comments about the resources; and their perceptions about the toolkit.

Chapter Six: Meeting and Interview Findings

'The interview facilitates the collection of large amounts of in-depth data...They also provide insight into people's attitudes, experiences and perspectives and are thus a useful data gathering tool in qualitative research'

(Ryan, Coughlan & Cronin 2009, p. 313).

This chapter presents an analysis of the data which was collected during the initial meeting, professional development activities and the interviews. The researcher has used an approach to analysis that employs interpretive phenomenology (Creswell 1994, 2009; McGaha & D'Urso 2019). Interpretive Phenomenological Analysis (IPA), 'interprets meaning from how an individual experienced a phenomenon' (McGaha & D'Urso 2019, p. 587). IPA is useful to investigate situations or topics (phenomena). The process of analysis involved what the participants stated about the toolkit along with their experiences of implementing the toolkit. What they said was compared, sorted, and resorted into themes. The sorting resulted in multiple issues that needed to be considered. This type of approach aimed to provide a thorough examination of the participants' experiences by obtaining useful in-depth information about their use of the toolkit. The analytical process also took account of the ways participants' perceptions might be influenced by personal history, interests, beliefs, cultures, and so on. All the resources listed in this chapter have been fully referenced in the reference section of the toolkit (p. 294).

6.1: Introduction

The toolkit was been found to be a valuable asset by most of the participants. They considered the toolkit important and that all teachers should be able to have access to it; and they attested to having benefited from using it. For some though, it was not quite what they thought it was going to be. Some teachers thought the toolkit was going to explain what to do if they had a gifted student. The information about the toolkit was in the 'Information to participants involved in research' form in the toolkit; as well as the discussion about the toolkit during the professional development. The researcher stated that the study was about using resources for the recognition of gifted and underachieving gifted students.

6.2: Perceptions of giftedness and underachievement

The participants' ideas and comments about both underachievement and giftedness initially relied on their original thoughts and prior knowledge (the iterational dimension of Teacher Agency), and any change of perception or understanding was considered a result of the implementation of the toolkit. Both Figures 15 and 16, identify the participants' responses to the questions asked during the pre-intervention meeting and to the questions in the post-intervention interview. Table 15 indicates the responses the teachers gave on giftedness and Table 16 indicates the responses the teachers gave on underachievement. These figures highlight the areas where the participants have or have not been influenced by the toolkit.

The intervention has clearly affected the teachers' definitions of giftedness and underachievement. Most teachers declared the toolkit had heightened their awareness of the characteristics of both underachievement and giftedness, and in particular the characteristics and behaviours of underachieving gifted students. The data revealed that the participants did have like-minded responses about giftedness and underachievement. For example, there were similar definitions of giftedness, such as 'Above average or beyond the average potential', and similar definitions of underachievement, such as 'Not able to reach a certain standard or failing to reach curriculum levels.' Another definition for underachievement concerned having a learning disability. Nevertheless, not all students who underachieve have a learning disability, some underachieve for other reasons. For example, some gifted students need to be motivated to succeed (intrinsic motivation), while others do not want to stand out in the classroom.

6.2.1: *Changed perceptions of giftedness*

The participants and the researcher believe the participants have increased their knowledge on giftedness, which was evident not only by the comparative analysis of the survey questions against the experts' responses but also by their comments made during the interviews. In particular, the use of the toolkit has improved and strengthened the participants' agency on giftedness. Table 15 displays the participants' changed

perceptions of giftedness after they had implemented the toolkit. The following text and Table 15 describe the participants' changed responses.

Alan thought giftedness was about someone who is out of the ordinary, beyond the average potential. After the intervention, his views on giftedness had altered to include that giftedness '*can be concealed in many ways*' (Alan 2019, interview, 1 November). He believed giftedness does not always present itself in a standard fashion. Although Alan lacked the time to be able to complete the study, he noted that giftedness can be hidden. Alan believed he had improved his awareness of giftedness because '*It [giftedness] doesn't always present itself in a standard fashion*' and he acknowledged there is '*a different kind of gifted student*' (Alan 2019, interview, 1 November).

Betty agreed that she had changed her ideas around giftedness as a result of using the toolkit. She stated that the '*characteristics of giftedness has been more highlighted*' (Betty 2019, interview, 13 September). She changed her definition of giftedness to also include good memory; good and complex language; a child who is receptive and expressive; high thinking processes; and the ability to ask complex questions. Chris believed his ideas around giftedness were broader now since using the toolkit because '*I am looking for different characteristics*' (Chris 2019, interview, 16 October). Dana believed she had a good understanding of giftedness before using the toolkit, but since using the toolkit thought '*it went into more detail and looked at some things that I hadn't thought of or come across before*' (Dana 2019, interview, 16 October). This would indicate it had broadened her views on giftedness.

Eric commented he only considered giftedness '*in the lens of the scope of the main academic stream*' (Eric 2019, interview, 16 October) that he teaches (mathematics). Although Eric believed his views on giftedness had not changed, he also said that after using the toolkit, he had realised he had lost a bit of clarity about what it was. He mentioned he had to '*put aside the more important or more credible indicators*' (Eric 2019, interview, 16 October) of giftedness because he had a mindset as to what it was.

Table 15: Participant's Definition of Giftedness Pre/Post-Intervention

Teacher		Question	Response
Alan	Pre-intervention	What do you think giftedness is?	Out of the ordinary, beyond the average potential.
	Post-intervention	Have your ideas on giftedness changed?	Yes. Giftedness can also be concealed in many ways. The toolkit is an aid in identifying those not immediately obvious and evident.
Betty	Pre-intervention	What do you think giftedness is?	Good memory, a child who has good and complex language, who is expressive and receptive. Perhaps reading in the kinder years.
	Post-intervention	Have your ideas on giftedness changed?	Yes. Characteristics of giftedness have been more highlighted
Chris	Pre-intervention	What do you think giftedness is?	They're working above the achievement standards. Reading in preps, asking deep thoughtful questions.
	Post-intervention	Have your ideas on giftedness changed?	Yes, I think its broader now. I'm looking for different characteristics
Dana	Pre-intervention	What do you think giftedness is?	A higher knowledge or interest and excelling in it.
	Post-intervention	Have your ideas on giftedness changed?	Yes. The folder goes into more detail with things I haven't come across.
Eric	Pre-intervention	What do you think giftedness is?	They are able to engage strongly in logical and language-based approaches
	Post-intervention	Have your ideas on giftedness changed?	Yes. Giftedness was not as clear as what I usually thought
Finn	Pre-intervention	What do you think giftedness is?	High cognitive skills
	Post-intervention	Have your ideas on giftedness changed?	No. I knew about the different aspects of giftedness
Grace	Pre-intervention	What do you think giftedness is?	An academic ability over and above what is expected of that year level.
	Post-intervention	Have your ideas on giftedness changed?	Yes. It made me turn some focus away from the academics, looking at certain behaviours.
Harry	Pre-intervention	What do you think giftedness is?	A student who finds the content or curriculum particularly easy. Have good problem-solving skills and initiative.
Irene	Pre-intervention	What do you think giftedness is?	Able to achieve above an expected level or well above an expected level.
Jayne	Pre-intervention	What do you think giftedness is?	Exceptionally above average.
	Post-intervention	Have your ideas on giftedness changed?	Yes. It's not just the academic, it's the whole child.
Kerryn	Pre-intervention	What do you think giftedness is?	A child that has a skill and is able to use it successfully beyond their years
	Post-intervention	Have your ideas on giftedness changed?	Yes. It has extended my knowledge of what I think giftedness is.
Luke	Pre-intervention	What do you think giftedness is?	Advanced on the curriculum
	Post-intervention	Have your ideas on giftedness changed?	Not really. It just helped me confirm my suspicions
May	Pre-intervention	What do you think giftedness is?	Working well above age related expectations.
	Post-intervention	Have your ideas on giftedness changed?	Yes. It has made me look at it in a slightly different way
Nicole	Pre-intervention	What do you think giftedness is?	A student that is working above the curriculum strand for their year level.

Eric believed a student gifted in maths would be *'able to engage strongly in logical and language-based approaches to answering math questions'* (Eric 2019, interview, 16 October). He commented that mathematically gifted students can arrive at usable and workable solutions quickly, that these may or may not be perfect, but the students could arrive at a process of linking parts of the curriculum that one usually does not see. Alternatively, they may generate unique solutions, or use consistent expressions that are very condensed, yet can be simplified and make a lot of sense. He also said the toolkit *'did not fundamentally change his ideas of what true giftedness was'* (Eric 2019, interview, 16 October).

Finn had taken a personal and professional interest in gifted students and was adamant about his knowledge on giftedness. Initially, Finn commented that a gifted person is someone who either *'doesn't want to show you or does want to show you [ability]'* (Finn 2019, interview, 11 November). When questioned further he stated that gifted meant someone who had *'high cognitive skills'* (Finn 2019, interview, 11 November), including the fact that they think more deeply about things, are very conscientious about getting things right (*some are and some aren't*). He also observed that you can get others that *'have more self-esteem and they let people know that they are that way'*. He believed he knew all about the *'different aspects of giftedness including underachievement'*, and as a result thought his views did not change as a result of using the toolkit. Grace was also specific with her definitions of giftedness. To her, gifted meant having an academic ability over and above what is expected of that year level. One behaviour she noted was that gifted students are the ones who are really eager and want to share what they know *'they are the first to answer questions'* (Grace 2019, interview, 11 November).

Jayne's definition of giftedness was a child who presents as exceptionally above average. After using the toolkit, she believed her ideas around giftedness have been heightened. Kerryn's ideas on these issues were very similar. She saw giftedness as a child having a skill that is beyond their years. Kerryn claimed the toolkit has directed her to extend her knowledge of giftedness. Luke believed giftedness was someone who was advanced in the curriculum and even stated a gifted student could be *'Somebody*

who can do anything I give them...probably without instruction' (Luke 2019, interview, December). May's definition meant giftedness was a student was working well above age related expectations. She also believed the toolkit made her look at giftedness in a slightly different way and that this could include behaviours that are overlooked.

6.2.2: Changed perceptions of underachievement

Table 16 displays the participants' changed responses about underachievement. Alan believed the intervention had not changed his views of underachievement. His definition of underachievement involved comparing the current ability of someone to their potential ability. In other words, he believed *'underachievement would be failing to meet their potential in some sense'* (Alan 2019, interview, 1 November). In contrast, Betty and Chris, believed the intervention had changed their ideas around underachievement. Regarding underachievement, Betty stated *'it gave you different areas to look at for identification'* (Betty 2019, interview, 13 September). Chris believed his ideas around giftedness are broader now since using the toolkit because *'I am looking for different characteristics'* (Chris 2019, interview, 16 October).

Dana's ideas on underachievement are very similar to many of the participants, seeing this as *'not performing to a minimum standard'* (Dana 2019, interview, 16 October). She is now looking at the possibility a student maybe underachieving to potentially hide their ability of being gifted. Dana believed this could be *'because we are not presenting them with the right challenges'* (Dana 2019, interview, 16 October). Eric commented that he only considers underachievement in reference to the academic stream of Year 7 & 9 maths. He stated underachievement was usually associated with behavioural issues, quiet underachievement, reservedness, and students controlling their output because they did not want attention or the extra work. These are some of the behaviours that could be seen in underachieving gifted students.

Table 16: Participant's Definition of Underachievement Pre/Post-Intervention

Teacher		Question	Response
Alan	Pre-intervention	What do you think underachievement is?	Not on track to realise whatever potential they do have
	Post-intervention	Have your ideas on underachievement changed?	No. Underachievement would be failing to meet their potential
Betty	Pre-intervention	What do you think underachievement is?	They are not achieving their potential
	Post-intervention	Have your ideas on underachievement changed?	Yes. It gave you different areas to look out for with identification
Chris	Pre-intervention	What do you think underachievement is?	They are not able to perform work at a certain standard
	Post-intervention	Have your ideas on underachievement changed?	Yes. It has broadened my knowledge
Dana	Pre-intervention	What do you think underachievement is?	A child is not performing to a minimum standard to what you would expect
	Post-intervention	Have your ideas on underachievement changed?	Yes. A bit more compassionate about why they might not be achieving their goals and what is holding them back
Eric	Pre-intervention	What do you think underachievement is?	Usually associated with behavioural issues
	Post-intervention	Have your ideas on underachievement changed?	No. I only consider underachievement in the lens of maths. I only see comprehension, integration and retention.
Finn	Pre-intervention	What do you think underachievement is?	They are not understanding most things.
	Post-intervention	Have your ideas on underachievement changed?	No.
Grace	Pre-intervention	What do you think underachievement is?	A students' academic level is perhaps at the low levels.
	Post-intervention	Have your ideas on underachievement changed?	Yes. In terms of gifted students who deliberately underachieve
Harry	Pre-intervention	What do you think underachievement is?	First thing is laziness. They don't always show the best of their capabilities
Irene	Pre-intervention	What do you think underachievement is?	Not achieving what would be expected for that child
Jayne	Pre-intervention	What do you think underachievement is?	Issues which hamper the ability to progress at a rate expected of their age. Not always related to certain disabilities or additional learning needs
	Post-intervention	Have your ideas on underachievement changed?	Yes. I haven't really thought about those that have potential that's been untapped
Kerryn	Pre-intervention	What do you think underachievement is?	A child who isn't achieving to a set standard. A child with a hidden learning disability
	Post-intervention	Have your ideas on underachievement changed?	Yes. The underachievement of a gifted child
Luke	Pre-intervention	What do you think underachievement is?	Someone who shows bursts of what they can really do. But not consistently
	Post-intervention	Have your ideas on underachievement changed?	A child is not achieving at a level they are capable of
May	Pre-intervention	What do you think underachievement is?	Students who are not making the expected progress and consistently not reaching their potential
	Post-intervention	Have your ideas on underachievement changed?	Yes. It has been added to
Nicole	Pre-intervention	What do you think underachievement is?	Students who aren't quite able to achieve the curriculum strand

Finn was very sure about his knowledge on underachievement. He believed students who are underachieving are not understanding most things and need more one on one time. Grace looked at underachievement in terms of a student's academic ability, where they are working at lower levels but are underachieving at the expected levels. However, after using the toolkit, she stated some gifted students deliberately choose to underachieve so, they do not stand out and are happy to coast along in the middle. Since using the toolkit, her focus has turned away from what she thought about underachievement, to those students who deliberately choose to underachieve. Jayne believed underachievement can relate to certain disabilities or learning needs. She commented that social and emotional issues can hamper a student's progress so they do not reach levels that would be expected of their age. Since using the toolkit, Jayne believed her ideas on underachievement changed to include potential that has been untapped. Her definition of underachievement now includes people with potential.

Kerryn's ideas on underachievement involved a child having a learning disability. She believed the autistic student in her classroom underachieved because of his learning disability. Yet, she also believed this student may be gifted. As noted previously, underachievement must not necessarily be the result of a diagnosed learning disability. Luke is another participant who believed the toolkit has changed his perspective of underachievement. After using the toolkit, underachievement changed and referred to a student who is not achieving at a particular level (expected level). May believed underachievement was evident in students who were not making the expected progress and consistently not reaching their potential. She now believes that students who underachieve are not given the opportunity to share the things they know, and schools should be doing more for those students.

6.2.3: *Changed perception on underachieving gifted students*

There are 10 resources in the toolkit which can be used to recognise possible underachievement in gifted students (see page 140). Most of the participants have had their views on giftedness and underachievement changed, as a direct result of using the toolkit. This is evident not only by their responses for the post-survey but also with their

amended definitions of giftedness and underachievement in the interviews. The participants now understand more about underachieving gifted students.

Betty, Chris and Dana believed their views around giftedness and underachievement have changed as a direct result of implementing the toolkit. Betty commented that the toolkit provided '*different areas to look at as far as identification*'. Chris stated that his ideas about underachievement had changed because he was not aware of the underachievement side of giftedness. Dana believed the toolkit went into more detail than her previous understanding of giftedness. Although she stated she had a good understanding of giftedness, she had not seen or come across many of the negative behaviours or characteristics of giftedness. Dana stated she was not aware there could be gifted students who displayed negative behaviours or characteristics. Dana said she is now looking at the possibility a gifted student maybe underachieving to potentially hide their ability of being gifted. She also said that in her years of teaching (Dana was in group 2*) – she was an experienced teacher – she had not ever taught a gifted student. But post-intervention she believed she could establish if a student was underachieving and gifted.

After implementing the toolkit, Eric stated during the interview '*Giftedness was not as clear as what I usually thought*' (Eric 2019, interview, 16 October). This was said in relation to underachieving gifted students, but he also commented that the intervention had not changed his ideas on underachievement. Nevertheless, by his own admission, he did change his ideas on the underachievement of gifted students. Eric now thinks his '*bullheadedness*' (unwilling to change opinion) has kept him from realising that there are behaviours from certain students to ensure that their actual ability is not common knowledge. He believed that he had seen this behaviour in students previously, but he did not realise it could be a gifted student underachieving. This was part of his definition of giftedness, where he noted that he was talking about underachievement in gifted students. After using the toolkit, Grace stated that her focus had changed from what she thought about underachievement to those students who deliberately choose to underachieve. She said she would pay more attention to behaviours that

underachieving gifted students display, such as, frustration and boredom, and to the fact they do not want to stand out in the classroom. Grace also thought she would probably be able to identify an underachieving gifted student because of the toolkit.

Jayne stated her views on both underachievement and giftedness had altered as a result of using the toolkit. Jayne commented '*that she had not thought about those students who have potential that's been untapped*' (Jayne 2019, interview, 4 December). Jayne's definition of underachievement now includes '*people who don't meet their potential...and there is no reason why they can't*' (Jayne 2019, interview, 4 December). Jayne believed she was educated by using the toolkit because she participated in this study. She had never thought of particular characteristics and behaviours that could indicate giftedness. For example, questioning authority, using imaginative methods to get out of doing tasks. Jayne said '*I didn't even know or consider that there were underachieving gifted students, it's either gifted, in the middle or below*' (Jayne 2019, interview, 4 December). She had only really thought about those students who were obviously gifted.

Kerryn's views on underachievement in gifted students have changed due to the toolkit. She believed the extensiveness of the checklists have given her a better understanding about characteristics and behaviours of giftedness. Since implementing the toolkit, she believes her ideas on the underachievement of gifted students has now been highlighted and the toolkit would help teachers to recognise underachieving gifted students. May believed the toolkit made recognising underachievement in gifted students clearer.

6.3: Resources implemented by participants

Every participant was asked to administer five resources on every student in the classroom, but some chose their own way to approach this study. During the initial meeting, all teachers, received instructions on what was required to complete this study. Teachers had been asked to use either the Victorian Government resource or one of the nominated early childhood resources, the New Zealand TKI Ministry of Education

resource, or the Silverman 2 resource, that had been listed on the Victorian Government website to use for identification. They were then asked to choose other resources, to a maximum of five for this study. Participants Dana, Eric, Grace, Jayne, Kerryn, Luke and May used the Victorian Government resource; and Betty and Chris used the Silverman 2 resource. Jayne, Kerryn and Luke also used the Silverman 2 resource as one of their five resources. There were two participants who did not use one of the recommended resources, and one of these participants only implemented one resource (the self-nomination form). Table 17 displays all the resources the participants implemented.

The participants chose many resources for the study. Table 17 displays the resources which were implemented, the type of resources they are and what resources the participants chose to implement. For example: Kaya is a peer nomination form which was implemented by Jayne and May; Murphy is also a peer nomination form which was implemented by Dana, Grace and May; and Porter is a rating scale implemented by Betty and Kerryn. Three participants (Jayne, Luke and May) completed five resources, and four participants (Betty, Chris, Dana and Grace) completed four resources. One participant (Finn) who did not complete any of the resources but shared the toolkit with another teacher who was then indirectly involved in this research. Even though the researcher did not hear about which resources this teacher used, Finn was able to pass on this teacher's ideas and thoughts about the toolkit, as well as his own, for the study. Jayne, Kerryn and Luke chose to complete two resources from the requested list of resources. If all the participants had implemented the same resource, there would be more information as to whether or not a particular resource would be the best option. As all the participants were unable to administer the required resources (and this is a small-scale study) the decision on the usability and viability of a particular resource cannot be made.

Eight participants chose fewer than five resources and three participants completed five resources. Nine of the 11 participants (82%) complied with the researcher and implemented the recommended resources. Although every participant was asked to

administer five resources on all their students in the classroom, one participant chose ten resources to complete on one student. She believed this student was possibly gifted. But implementing ten resources (Table 17) on one student, may not disclose if a student is underachieving, gifted or an underachieving gifted student. Most resources should be used on the entire class, for comparative purposes to see if any student stands out, especially when trying to identify underachieving gifted students.

Table 17: Resources participants implemented

Resource Name	Resource Type	Participants											
		A	B	C	D	E	F	G	J	K	L	M	
CCEA & NCCA	Checklist										✓		
Gittman & Koster	Rating Scale										✓		
Kaya	Peer form									✓			✓
Merrick	Checklist										✓		
Merrick & Targett	Checklist										✓		
Minnesota Council	Checklist							✓					
Montgomery	Rating scale										✓		
Morrissey	Checklist		✓										
Murphy	Peer form				✓			✓					✓
Murphy & Breen	Checklist			✓									
NSW 3	Checklist												✓
Porter	Rating scale		✓								✓		
Queensland doc.	Checklist			✓							✓		
Reis & McCoach	Checklist		✓										
Rimm	Checklist											✓	
Self-Assessment form	Checklist	✓			✓					✓			
Silverman 1	Checklist											✓	
Silverman 2 *	Rating scale		✓	✓						✓	✓	✓	
Smutny	Parent/Teacher			✓									
TKI Ministry of Ed.*	Teacher Exercise												
Victorian Govt. *	Checklist				✓	✓		✓	✓	✓	✓	✓	✓
Western Aust. Govt.	Checklist				✓	✓		✓	✓	✓	✓	✓	✓

*Note # The symbol * denotes resources the Victorian Government recommended on their website in 2018*

Apart from the required resources, the participants were able to explore and experiment with other resources in the toolkit. Not one participant mentioned they would use the required resources again, but regarding their own choice of resources, they mentioned they would use those again. These resources included checklists, rating scales, self, peer, and parent nomination forms. Betty who had 30 students in her classroom, preferred using the resources which were either rating scales or checklists, as they

were the easiest to implement. Betty said *'I found the checklists more beneficial to look at...doing 29 or 30 students in the time I had, it was easier to do the checklists'* (Betty 2019, interview, 13 September). She also believed the four resources she used for the intervention *'made me think about other things to look out for...It gave you different areas to look at as far as identification'* (Betty 2019, interview, 13 September).

Using the New Zealand TKI Ministry resource (Appendix D), required teachers to write down specific examples of the characteristics or behaviours observed. Unless this is done with the entire class, it does not necessarily give a teacher a comparative picture of the student, especially when other resources, such as the Silverman 2 rating scale, uses comparative analyses with peer age group. The TKI Ministry of Education resource also required a lot more time to complete than the participants had, to complete when compared to using a rating scale. Comparing student outcomes, as with the Silverman 2 rating scale, supplies the teacher with valuable information. Exactly how valuable this information is, depends on the teacher's perceptions and interpretation of the information obtained from implementing this type of resource.

Many participants discovered the toolkit was about looking for gifted students who were underachieving. One participant (Jayne) stated *'I didn't even know or consider that there were underachieving gifted students'* (Jayne 2019, interview, 4 December). Another participant said the toolkit was looking at *'a different kind of gifted student'* (Alan 2019, interview, 1 November). Alan meant the toolkit was not only looking for gifted students but also underachieving gifted students. Eric thought giftedness was not as obvious or as apparent as he thought; and *'My ideas on giftedness are broader now... I am looking at different characteristics... and looking for any hidden or masked behaviours'* (Chris 2019, interview, 16 October). This has clearly demonstrated the toolkit has enhanced the participants' perceptions and understandings of the characteristics and behaviours of giftedness.

6.3.1: *Types of resources implemented*

Most of the participants for the intervention chose to implement checklists, self-nomination, peer nomination and parent forms because of time constraints. The participants believed they were the uncomplicated ones to implement (Table 18). Alan implemented the self-assessment resource because it did not need much time to prepare, print off, give the students preparatory information about it, have the students use it, collect it from the students, and look at what they wrote. He said it only took only 10 minutes of classroom time to complete. Three participants who chose the peer-nomination resource: Dana, Grace and Jayne, with Dana choosing to implement two peer-nomination forms. Dana and Jayne used both of these types of resources because they did not take a lot of classroom time, and Betty, Dana and Grace chose more simplified checklists, also because of time constraints.

Table 18: Types of resources used and why

Participants	Resource Type	Comment
Alan	Self-assessment form	Only took 10 minutes of classroom time
Betty	Checklists	Time constraints only used quick checklists
Chris*	Parent form	Easy to implement this one.
Dana*	Parent and Peer-nomination form, and Checklists	Preferred to use only simplified checklists
Eric	Peer-nomination (he did not use it)	Interesting to see results
Finn	Checklists	
Grace*	Peer-nomination and Parent form	Easiest and beneficial, saved classroom time
Jayne	Peer and self-nomination forms	Quick and easy to administer
Kerryn*	Parent resource and Checklists	Quick and easy to use
Luke	Checklists	Simple to use
May*	Parent form and Peer-nomination form	They didn't take long
<i>Note # Participants who used parent nomination forms (*)</i>		

Another resource the participants used to 'save time' included the parent nomination forms. There were five participants (Chris, Dana, Grace, Kerryn and May) who involved parents in their quest to potentially identify a gifted student, by sending a parent

nomination form home with their students (Table 18). The NAGC (2008) 'advocates for the use of multiple assessments for identification' (p. 2), including using parent nomination forms. Involving parents can result in new information being obtained because they usually have better insight into their child's abilities. Using parent nomination forms, which are included in the toolkit, can provide more information for the teacher to assist with identification. The more information obtained by a teacher about a student's ability can only help with the identification process.

6.3.2: Victorian Government resource implications

After using the Victorian Government resource, there were six participants (who gave the completed resources to the researcher), stated they had identified any new gifted student in their classroom through using this resource. These six participants had approximately 150 students between them. Using 10% of the student population there would be around 15 students who would be considered gifted and if the percentage was greater at 15%, as many researchers state, there would be around 22 students who would be considered gifted. According to the results of this completed resource (Appendix G), 15 students had a score high enough that warranted them to be assessed further using either a parent nomination form or a more in-depth resource, like the ACT resource.

The results for the Victorian Government resource (Appendix G), have indicated that as students get older, they develop more characteristics that can be associated with giftedness. The results for this resource, which were given to the researcher, and are listed in Appendix G. This revealed, for example from a total of 24 characteristics, May's grade 1 students (M1 and M11), displayed 14 and 11 characteristics respectively; Dana's grade 2 students (D11, D18 and D25) displayed 12, 12 and 20 characteristics respectively; Kerry's grade 3 students (K1 and L1) displayed 17 characteristics each; Grace's grade 4 student (G10) displayed 11 characteristics (Grace was unsure with the results of 5 other characteristics); Jayne's Grade 6 students (J13, J22 and J23) displayed 15, 16 and 17 characteristics; and Eric's year 9 students (E1, E2 and E3) displayed 20, 23 and 23 characteristics respectively (Appendix G). These results

indicated the older a student is, the more characteristics are displayed (i.e., a student's score in grade 1 would be lower than a student's score in grade 5). In other words, using this resource is very much age dependent. As noted, Dana's student's score of 20 in grade 2, which was higher than the grades 3, 4 and 6 scores, meant this student should have been assessed further for giftedness.

In fact, all these students should be assessed further for giftedness because they displayed more characteristics and behaviours of giftedness compared to their aged peers. But the researcher believes from this cohort of students, M1 and D25 have displayed many more characteristics than their aged peers. To explore their scores further, both participants (Dana and May) used Murphy's peer nomination form and the Western Australia resource. Murphy's peer nomination resource for M1 had the second highest response with 21 nominations (M14 had 27 nominations). The mean score for Murphy's form was 10 nominations for May's class. M1 has displayed a much higher score than the mean score, indicating M1 is judged by the classmates to be more intelligent. For Dana's class, the mean score for Murphy's peer nomination form was approximately 9. D25 had 35 nominations from the classroom students, indicating this student is also seen as more intelligent by their peers. These two students should have been referred for further screening. Along with Murphy's peer nomination form, Kaya's peer nomination form also showed M1 and M11 had the most nominations with 27 and 26 nominations respectively. This also indicates these two students are seen as more knowledgeable than others in the classroom.

Two participants (Dana and May) also used the Western Australia resource. Dana used this resource on the whole class, whereas May used it only on the two students who had previously stood out from the rest of the class (M1 and M11). The results show M1 displayed 13 from 23 characteristics and behaviours that are associated with an underachieving gifted student, as well as 14 from 24 characteristics that are associated with intellectually gifted students; and M11 displayed 13 from 23 characteristics and behaviours that are associated with underachieving gifted students, as well as 16 from 24 characteristics that are associated with intellectually gifted students. With the number

of nominations and the results of the Western Australia resource, M1 and M11 should have been referred for further assessment. But for all the participants this was the first time they had accessed the toolkit. The toolkit needs to be implemented a few times for teachers to become more aware of what they are doing, what resource to use and how to evaluate the resources. According to Nuthall (2000), it takes 'three or four experiences involving interaction with relevant information for a new knowledge construct to be created in working memory and then transferred to long-term memory' (p. 93).

6.3.3: Parent resources

Although this cohort of teachers commented there were no gifted students identified by using the toolkit, once the researcher had gone through the completed resources the participants had surrendered, there were some students who may have been overlooked. The findings with every resource Kerryn implemented indicated her student with ASD may also be gifted, so she sent home a parent nomination form. Kerryn stated this form came back as normal. When she relinquished the implemented resources to the researcher, the parent form was not included with them. It would have been interesting to see how the parents filled out this form and if Kerryn was able to recognise any characteristics as well. May also used a parent nomination form with one student. She believes this resource came back as normal. May stated '*he started to read in prep and his interests and doing puzzles were all pretty normal*' (May 2019, interview, 11 December). However, the researcher believes the parent nomination form, which was filled in by M1's father, came back as indicating giftedness. From a total of 15 characteristics listed on NSW 3 document, M1 displayed 11 of them most of the time, with the remaining 4 characteristics, being displayed some of the time. This child who was in grade 1, reads approximately 30 books a month, has an unusual interest in science, and the father commented M1 was a fast learner. Together these results do indicate giftedness. Reading early can be a sign of giftedness, but this is not necessarily always the case. Other indications should be considered before a decision is made. M1 should have been recommended for further identification.

6.3.4: Participants' perspectives about the resources

While most participants implemented either the Victorian resource or one of the other nominated early childhood resources, some chose not to use these resources and chose other resources to implement. Most of the checklists and rating scales in the toolkit use age-related comparative investigations, for the identification of a possible gifted student, including underachieving gifted students.

Alan, who had been teaching for a few years (Alan was in group 1*) was able to implement one resource. He had been given the most time to complete this study (Table 5). Alan started the research at the beginning of May 2019, and had the post-intervention interview at the end of October 2019. This gave him six months, while most of the other participants had three to four months to finish implementing the five resources. This turned out to be detrimental to Alan as he had misunderstood what was discussed and what was asked of him during the first and second meeting. He also did not realise there were instructions or guidelines in the toolkit itself. He said he was able to use the self-assessment resource because it was easy to use and only took 10 minutes of classroom time. He thought the others were *'hard to get around to do because they were requiring my complete attention'* (Alan 2019, interview, 1 November). He believed using the resources on all of his 30 students would have taken up too much time. But he realised if that number was brought down to maybe five students, then he could miss a student who is underachieving and gifted. Alan believed some of resources had questions which could be difficult to answer for specific students. He believed the toolkit needed an initial resource which would be easier to implement, be accessible and save time. Alan also thought a resource was needed which would *'give students something they can interact with'* (Alan 2019, interview, 1 November). He did not realise there were peer nomination resources in the toolkit.

The second teacher interviewed (Betty), had been working for many years (she was in group 3*) and would be considered an experienced educator in the early childhood (Kindergarten) area. Betty believed the checklists were really good and beneficial. She commented on certain characteristics and behaviours, that she had seen in possibly

gifted students over her years of teaching. These included: reaching milestones early, and reading in the kinder years. Betty really enjoyed using the toolkit and her awareness of the characteristics of giftedness and underachievement have been highlighted. She has learnt that *'children can excel at different times and it is not necessarily from birth reaching all the milestones'* (Betty 2019, interview, 13 September). She also did not like the idea of using the TKI Ministry of Education resource because it needed to have examples written for each child. She commented this was because this resource requires users to list multiple examples of observed behaviours, creating a time-consuming exercise for teachers. This is especially so in the early childhood sector, and especially when educators can have upwards of 30 children per group. This resource also, does not allow for comparative analysis of characteristics and behaviours in gifted students. However, Betty also commented that this resource could be used secondary to a checklist or rating scale. She was able to implement four resources: Morrissey; Porter; Reis and McCoach; and Silverman 2. Betty liked Reis and McCoach's resource because it showed her different behaviours that she had never thought of as possibly being for a gifted student. For example, if a child displayed sensitive behaviours or was upset about current events, they may indicate giftedness. Betty enjoyed implementing all four resources and found that they *'made her think about other things to look out for'* (Betty 2019, interview, 13 September).

Chris had been teaching for some years (he was in group 1*) and was able to implement three resources: Murphy & Breen, Silverman 2, and the Queensland Department of Education resource. He particularly liked using the Murphy and Breen resource because it involved having conversations and completing them with the parents. By doing this, Chris was able to get a better understanding about a student's behaviours, and he felt the results would be more definitive. He implemented the Murphy and Breen resource because it was *'easy to get that one done'* (Chris 2019, interview, 16 October). Chris enjoyed using the parent resource because *'it was good to have conversations with the parents'* (Chris 2019, interview, 16 October) to find out more about the student. He believed it made him think more broadly and to formalise the thoughts he had about a student because it helped him look for masked or hidden

behaviours in students. He also implemented the Silverman 2 resource. He believes he is now looking for different characteristics of giftedness. Chris also said he was able to identify students who were ahead in verbal skills, speaking and listening, and creativity.

Dana has also been teaching for some years (group 2*) and believed there were certain resources in the toolkit that were not too invasive to use. She executed four resources for the study: Victorian Government, Western Australia Government, Murphy peer-nomination and self-nomination forms. These resources included self-assessment, peer nomination and parent resources. She believed implementing a range of different resources like these would be quite insightful and helpful in discovering more about certain students. Dana also liked Heacox's resource, which showed the differences between a bright and gifted learner. She believed this resource showed '*what exactly giftedness looks like*' (Dana 2019, interview,). Dana thought that implementing the resources that were more simplified were better to use because she did not have enough time to observe the students.

Eric had been teaching for some years (he was in group 2*) and implemented two resources: Victorian Government and Western Australia Government. Eric realised there were many resources in the toolkit that included behaviours and characteristics that varied from what he had expected. He found there were checklists that showed behaviours associated with underachieving gifted students. Although he was interested in the peer and parent resources, he believed his students were not in a mindset to do the peer resource because he '*thought it would have not been taken the right way*' (Eric 2019, interview, 16 October). Eric thought it would have been invasive or treated as a curiosity by certain people and believed his students would not have marked it properly. But he also commented that he could see a reason for this type of resource. Finn had been teaching for several years (he was in group 2*) and was eager to use the toolkit. He said he found the kit very interesting and liked the look of the checklists. However, he stated he did not have the time to complete the study correctly, as he was a specialist teacher and had different children every day of the week.

Grace had been teaching for several years (she was in group 2*) and was able to implement four resources for this study: Victorian Government, Western Australia Government, Minnesota council and Murphy's peer-nomination form. Grace believed the parent and peer resources were useful and beneficial. She enjoyed reading her students' responses revealing how they perceived other students in the class and thought this would be a good activity to do half way through the year. Grace stated the results of the peer-nomination had targeted a student. She said it '*targeted a particular student for a particular skill or attribute*'. She also liked the idea of these resources saving her time and classroom time. Grace thought the resources that required a yes or a no response, needed to have an in-between response.

Jayne had been teaching for a few years (she was in group 1*). The resources she used were: Victorian Government, Western Australia Government, Silverman 2, Kaya Peer-nomination form, and a self-nomination form. Jayne thought the peer and self-nomination resources were awesome. She also thought that these resources, which are quick and easy to administer, are beneficial. Although she did not use a parent resource, she stated she would implement this resource if a student exhibited '*the signs of the profile of a gifted student, then you would engage with the family*' (Jayne 2019, interview, 4 December).

Kerryn had been teaching for many years (she was in group 3*) and implemented 10 resources on one student (CCEA & NCCA, Gittman & Koster, Merrick, Merrick & Targett, Montgomery, Porter, Queensland Government, Silverman 2, Victorian Government and Western Australia Government). She did this because she believed the student was possibly gifted. The student she used for the study had been diagnosed on the Autism spectrum and she believed he may be also be gifted so wanted to try various resources to better understand her student. She was able to implement a parent resource, some checklists and rating scales. Although she implemented some rating scales, she said the parent resource and checklists were quick and easy to use, and would give teachers a clearer picture as to where a student might fit. After using the parent resource, Kerryn believed the student was not gifted, just clever.

Luke had been teaching for some years (he was in group 1*) and thought the toolkit was different to what he had expected. Luke was able to implement five resources: Rimm, Silverman 1, Silverman 2, the Victorian Government and Western Australia Government. He liked the checklists because they were simple to use. He was another participant who wanted to know 'what next?' and not simply about resources for identification. He stated he already had a gifted student and wanted help in challenging this student.

May had been teaching for some years (she was in group 2*) and she was able to implement four resources: Kaya peer-nomination, Murphy peer-nomination, New South Wales 3 Parent nomination and the Victorian Government resource. She sent a parent resource home to be filled out, as she thought she did have a child who presented in another resource as possibly being an underachieving gifted student. When the parent form came back, she deemed it as '*not indicating giftedness*' (May 2019, interview, 11 December). May liked implementing the peer nomination resource. She said she would use this again within the classroom. While she believed the results of the parent resource were normal, the researcher commented to her that the student does '*have tendencies towards being possibly gifted*' (Lyons stated to May 2019, interview, 11 December). May said she was interested in using the peer resources, especially as the year progressed.

6.3.5: *Easiest resources!*

Most of the participants chose resources which were the 'easiest' ones to implement. Most of the participants listed time constraints as the reason for not being able to complete the study. However, they were able to implement checklists, self- and peer-nomination, and parent forms. Comments about the implementation of the resources included: '*more simplified checklists*'; '*beneficial and saved classroom time*'; '*quick to administer*'; '*simple to use*'; '*time constraints*'; and '*they did not take long*' (Table 18). Checklists require teachers to tick a box or highlight a behaviour or characteristic that

has been noted. While checklists can be the easier or the quickest ones to use, it does not necessarily mean the results are not worthwhile or beneficial.

The self and peer forms required the participants to print the sheet, explain to the students what needed to be done, get the students to fill it in, collect it, and examine the results. This may identify students who may need further assessment. Three participants used the self-nomination form; and five participants who used peer-nomination forms. The parent form needed the participants to print the sheet, give it to their students, and have them deliver it to their parents/guardians. Some parent forms need to have time allocated for teachers to have discussions with the parents. Four participants used a parent form (Chris, Dana, Grace and May).

Six participants chose to implement rating scales. These resources required more time to complete than most checklists. These rating scales included: Five participants implemented the Silverman 2 rating scale (a resource recommended by the researcher), two participants implemented Porter's rating scale, one participant implemented two rating scales (Porter and Silverman 2), and one participant implemented four rating scales (Gittman & Koster, Montgomery, Porter, and Silverman 2). This was the participant who used these resources on one student and not with all the students in the classroom. No participants completed a questionnaire.

6.3.6: *Wording issues with the resources*

Some participants discussed some of the wording issues they had with the resources. Eric and Grace had discussed the discourse and wording issues between themselves, and then shared these issues with the researcher. They both wanted to know 'How do teachers judge particular words?' Wording such as 'high level', 'intense' or 'insightful'. Although the participants in this study had issues with some of the wording of the resources, there are other resources in the toolkit that do not include such descriptive wording.

Eric thought many of the resources were pushing the assessor to compromise or probably go beyond the scope of what could really be evident by the language within it. So *'you may see a student of general intelligence who shows great insight but then question the relation to the meaning of 'insight' within the toolkit'* (Eric 2019, interview, 16 October). In other words, a resource may contain language that implies that one sees that regularly or to an extremely high level. Also, Eric said that one is limited by boundaries and judgement points and he questioned *'What is a really a high level?'* (Eric 2019, interview, 16 October). Conversely, he also thought several questions in a particular resource went to *'extreme specifics that tend to have no relevance to students of my class.'* There were things like *'Can they use a vacuum? Can they put blocks together creatively?'*. So, Eric thought he would not have the capacity to know if his students could do that kind of stuff. He thought those questions were irrelevant to giftedness.

Grace mentioned there were words she had problems with. For example: *'How insightful is a student? How do you judge that? How do you interpret some of those words used?'* She commented that if it was not for the wording like *'very'* or *'intense'*, she would be more likely to be able to identify an underachieving gifted student. She believed words like that are very subjective, and maybe there should be *'a scale for behaviour, rather than a yes or no or intense'* (Grace 2019, interview, 11 November). Although Grace did not like some of the wording in some of the resources, she believed there were resources in the toolkit that are useful.

Jayne was the only teacher who mentioned not liking or wanting to use the word *'gifted'*. Jayne said *'I generally don't like to use labels'* (Jayne 2019, interview, 4 December), but understood that as teachers, labelling is just what happens with struggling readers or writers. Finn also believed labelling marks the student as different and *'no student likes to be known as different in the classroom'* (Finn 2019, interview, 11 November). The problem with using *'gifted and talented'* together, is that there is a difference between the two terms, and as Jayne stated *'I struggle to distinguish between the terms gifted and talented'* (Jayne 2019, interview, 4 December). Separating the two terms was

discussed during the initial meeting, and is discussed earlier in the study. Jayne also said that 'labels' affect students in different ways. For example, labelling can have negative connotations. She believed if they were called gifted, then that student would become over confident and as a result would limit themselves. But later during the interview, Jayne commented '*are my high achievers more talented than gifted? Is that how you would label them?*' (Jayne 2019, interview, 4 December). She also said the self-assessment resource contained the word 'gifted' which she had not noticed before having it printed. She thought her students might not respond to the questions correctly if they had seen it. As it turned out, they did not notice the word.

May also commented on the word 'gifted' which was noted in a particular resource. She believed it would be too overpowering for parents to see 'Is your child gifted?' (Minnesota Council 2018). She was told by the researcher it would be okay to delete the word gifted from the resource, as long as the resource was referenced correctly when it was returned.

6.3.7: Time constraints

The participants believed choosing particular resources and then completing them for the study would take up too much time. Research has confirmed that teachers are time poor and are overloaded with work. Alan thought completing five resources was too difficult. Alan stated '*I have very little time available for extra work*' and '*takes work home nearly every night*' (Alan 2019, interview, 1 November). Betty agreed that completing five resources on 30 children would have taken up too much time, so she chose 'easier' checklists to complete. Dana stated she needs to take work home to finish or stays in the classroom until 6pm. Grace (like Betty) used resources which saved the class and her time. May commented that teachers would not have the time to go through the toolkit and read all the resources. She believed there would need to be a teacher trained in it so that they could direct the teacher to the right type of resource (self, peer, parent, teacher, etc.), particularly the age-related resource, and how to interpret them. Finn mentioned he should have realised he did not have the available extra time to complete the study. These participants implemented the 'easiest'

resources because of time constraints, so that they would be able to complete this study.

6.4: Participants' identification of giftedness

Most of the participants believed gifted students should be at least informally identified. Alan thought identification should happen because *'you want to know, the potential of all your students'* (Alan 2019, interview, 1 November). He believed he might have a student who is twice-exceptional. This student had been diagnosed with Attention-Deficit-Hyperactivity-Disorder (ADHD) but Alan also thinks he is gifted. He believed this student is advanced in mathematics *'he smashes a whole lot of work in no time...way above his year group'* (Alan 2019, interview, 1 November). But because of his ADHD – shouting out, talking off topic – and how he can be inappropriate with interactions with his classmates or teachers, Alan thought his behaviour meant he was being overlooked for giftedness. In this regard, Alan believed this situation is a testament to having students identified.

Betty also believed it is important to have children informally or formally identified. She felt these children *'need to be given the best opportunities to reach their highest potential'* (Betty 2019, interview, 13 September), by being identified. Betty also mentioned that *'schools, teachers and parents should cater to the needs of a gifted child to make the best of their situation for their present and future'* (Betty 2019, interview, 13 September). Chris also believed gifted students should definitely be identified. He thought it should happen in preps, so they are not missed and get catered for, and so that each new teacher does not have to work it out or discover what to do with them.

Dana believed, like Chris, that identification should happen so that it gives the teacher an opportunity to find out more information about giftedness and be provides with strategies to help overcome some of the challenges a gifted student may present with. She believes a diagnosis can help students who are not showing their full potential and can *'help teachers to understand and empathize with some of the other behaviours a gifted child may display such as boredom, depression, social issues, etcetera'* (Dana

2019, interview, 16 October). Eric also believed these students need to be identified because *'we need to do more with them'* (Eric 2019, interview, 16 October). He said if we do not identify them, they will get ignored and will not get time needed with their teacher. Eric believed we need to identify these students so that they receive the type of education where they can reward themselves because they *'will be our great innovators someday'* (Eric 2019, interview, 16 October).

Finn believed identification depends on the circumstances. He felt if a student is confident and has access and support then they do not need formal identification. Finn thought they should not need to be formally identified because getting it formalised can be costly. But Finn also commented that gifted students should be formally identified if they have a disability. He believes gifted students should be at least informally identified so that they are placed in the right program in schools to cater for their needs. Grace thought identification was absolutely, necessary. She believed that gifted students should be informally or formally identified.

Jayne believed that possible gifted students should be identified formally *'just like we do at the other end for kids that have to be assessed for a variety of learning difficulties. We need to know about kids who are on the other end of the spectrum'* (Jayne 2019, interview, 4 December). Kerryn thought that identification should occur when *'someone cannot help that child, or challenge a child'* (Kerryn 2019, interview, 12 December). She also thought identification should happen so that inexperienced teachers could get the necessary assistance they need, in order to allow a student *'to exceed and excel in areas of interests, and the curriculum'* (Kerryn 2019, interview, 12 December).

Luke is another participant who believed gifted students should be identified. He thought this would help in *'identifying whether a student is just ahead or exceptional'* (Luke 2019, interview, 19 December). May also thought gifted students should be identified so that more can be done for those students. She also commented that using psychologists is very expensive and not everyone can afford to get their child tested, so she believed informal identification needs to happen.

6.5: Participant's views about the toolkit

Most of the participants had their views on giftedness and underachievement changed, as a direct result of using the toolkit. This is evident not only by their responses for the post-survey but also in their amended definitions of giftedness and underachievement. While most of the participants had differing views about the toolkit, it has been described by the participants, in a mostly positive way. The views of the participants are as follows: Betty and Chris described the toolkit as good; Dana as lengthy (meaning comprehensive); Eric as interesting and good; Finn liked it; Kerryn liked it; and May saw it as interesting. The remaining participants described it as: hard (Alan); exhaustive (Jayne); as overwhelming (Grace); and unexpected (Luke). None of these comments were negative, but reflected more about what they were expecting from the toolkit. Eric also commented he thought the toolkit was pushing teachers to go beyond the scope of what they thought about giftedness, and look for different types of behaviours. He also said it created conversations between other staff members about ways to identify gifted students.

Alan thought the toolkit was hard to get around to using because he stated he had useability issues. He said the resources contained 'all these difficult questions' which were hard to answer because '*you question your own memory. Is my memory reliable with answering some of these questions?*' (Alan 2019, interview, 1 November). Although this was said, Alan believed the toolkit was looking for a different kind of gifted student. He said '*the use of the toolkit is an aid in identifying those who may be gifted in a way that is not immediately obvious and evident*' (Alan 2019, interview, 1 November).

Betty really enjoyed using the toolkit. She thought there were a lot of questions that made her think differently about children. Betty believed the toolkit would be great to use at the beginning of the year and then again later in the year for each child to check on their progress. She thought the toolkit needed no improvement and would enable her to recognise an underachieving gifted child because it provided '*different areas to look for as far as identification*' (Betty 2019, interview,). She also thought the toolkit needed

no changes. Chris also liked the toolkit. He believed it would help him identify an underachieving gifted student.

Dana thought the toolkit was 'lengthy'. This impression was not negative as she meant the toolkit was comprehensive. She thought the toolkit could be simplified or have the resources put into categories such as '*early years, middle years and senior years*' (Dana 2019, interview, 16 October). She believed the toolkit to be a valuable resource which should be available in schools as a reference. Dana thought the toolkit was necessary to identify children earlier on, '*which would help them so much*' (Dana 2019, interview, 16 October). She also thought the toolkit backed up what she knew and went into more detail, and made her look at things she had not thought of or come across before. Dana believed the toolkit is definitely good value and there is nothing negative about it. She believed the toolkit would certainly help with identifying underachieving gifted students.

Although Eric thought the toolkit was what he expected, he also said it pushed him to 'go beyond the scope of what really could be evident' (Eric 2019, interview, 16 October). Even though he thought the toolkit did not change his views or ideas around giftedness, he mentioned the toolkit made him think about giftedness a lot more and that it was not as clear as what he used to think. Eric thought the toolkit would enable him to identify an underachieving gifted student because it made him think about the different characteristics linking underachievement with giftedness. He was surprised the toolkit made him look at different behaviours that could be hiding a gifted student. Eric had never thought a student who does not persevere with a problem or who refuses to do a test, may be gifted. He believed the toolkit 'made me look at different behaviours that could be hiding a gifted student' (Eric 2019, interview, 16 October) and stated he liked the toolkit and would use it in the future.

Finn did not say much about the toolkit as he was a specialist teacher and did not have the time with students to be able to complete it. But he did comment the toolkit gave him characteristics and behaviours that he '*might not remember*' (Finn 2019, interview,).

Finn said he would use the toolkit if he had the same class all year. Finn also stated he liked the package and cannot wait to use it. He thought the toolkit was presented in a great way. Grace thought the toolkit was interesting and covered giftedness with a whole range of things including *'what you need to look out for'* (Grace 2019, interview, 11 November). Grace thought she would probably be able to identify an underachieving gifted student because of the toolkit. She also believed the toolkit needed to be synthesized into one that covers all the variances of giftedness.

Jayne believed the toolkit to be comprehensive. She stated that it brought to her attention the different aspects of a child including looking at their social, emotional, and academic capabilities. She thought it was enlightening and interesting. Before using the toolkit, Jayne had never known or considered there were underachieving gifted students. She believed being a part of this study has made her more aware of giftedness *'I am being educated with the toolkit'* (Jayne 2019, interview, 4 December). Jayne said the toolkit was an easy to use and she would absolutely use it in the future. Kerryn really liked the toolkit but wondered where to next. Initially she thought the resources in the toolkit should be culled as there were some that were similar. But after discussing the issue, she commented *'what was relevant to last year's child may not be relevant for this year's child, in that respect culling probably would not help'* (Kerryn 2019, interview, 12 December). Kerryn believed the toolkit would be an amazing and invaluable resource for graduates and young teachers to have.

Luke believed teachers need more than just being able to identify gifted students. He believed identification is the easy bit – teachers need support in challenging these students. Luke thinks the toolkit helped him confirm the behaviours of underachievement in gifted students. He thought it would be good for when teachers are stuck and need help. He stated the toolkit needed more information such as:

- *'We need to know where to next?'*
- *Is there topic specific PD we should look at etc., (example: PD on higher yield questioning, gifted education, engaging reluctant learners);*
- *Advice on strategies to help reengage these students?*
- *Direct teachers to websites;*
- *and Support services for families and schools'.*

(Luke 2019, interview, 19 December)

He also said he would use the toolkit in the future but thought it should have included the aforementioned items as well. May thought the toolkit was interesting to use because she liked investigating the different aspects of giftedness. She commented that the toolkit made her look at giftedness in a different way and it also added to the way she had perceived underachievement. May believed the toolkit would help her to identify an underachieving gifted student as it changed the way she thought about students who may be not working to their potential. She realised after implementing the toolkit, that she had a student who was only a disruption to others, during group time. This made her think it was from frustration or boredom because the student wanted to move on and do more. She also liked being able to see what other students see about their classmates. Nevertheless, she believed the toolkit contained too many resources and should be reduced to only a few.

6.6: Impact of intervention

Interventions such as the toolkit, are intended to produce a change. The toolkit involved resources which were included to improve, promote, extend, or modify the teacher's perceptions of giftedness. The impact of an intervention can be positive or negative, and/or have the intended or unintended effect. Assessing the impact of an intervention provides important information to inform future directions and decisions.

Table 19, demonstrates the impact of the intervention. It shows that most of the participants (82%), changed their ideas around giftedness and many of the participants stated that they changed their ideas on underachievement (64%). Even though some of the participants stated their ideas on underachievement did not change, most of them had changed the way they perceived underachievement. They changed the way they looked at underachievement in gifted students. In fact, most of the participants (91%) believed the toolkit enabled them to recognise underachieving gifted students. For example, Alan, who stated using the toolkit did not change his ideas on underachievement, also commented '*The toolkit is an aid in identifying those not immediately obvious and evident*' (Alan 2019, interview, 1 November). Alan believed the toolkit was about looking for '*a different kind of gifted student*' (Alan 2019, interview, 1

November). In other words, he believed the toolkit was about looking for those students who are gifted and underachieving.

Table 19: Interview schedule data

Interview Question	Number of Responses						% YES	% NO	
	Participant YES		Participant NO		Participant Maybe/Somewhat				Do not know
Have you had any professional development on giftedness?	F	1	A B C D E G J K L M	10		0		9	91
Have you had any professional development on underachievement?	B D F G J	5	A C E K L M	6		0		45	55
Have your ideas on giftedness changed as a result of using the toolkit?	A B C J M	5	F L	2	D E G K	4		82	18
Have your ideas on underachievement changed as a result of using the toolkit?	B C J	3	A E F L	4	D G K M	4		64	36
Does your school have a gifted policy?	B J	2	A C D E F G L	7		0	K M	18	64
Do you have any of your own resources you would use for identification of giftedness?	B F	2	A C D E G J L M	8	K	1		27	73
Do you think the toolkit would enable you to identify a gifted student?	B C D E J L	6	K	1	F G M	3		82	18
Do you think the toolkit would enable you to identify an underachieving gifted student?	B C D E J L	7	K	1	F G M	3		91	9
Do you think gifted students should be formally or informally identified?	A B C D E G J K L M	11		0	F	0		100	0
Would you use the toolkit in the future?	B C D E F G J K M	9		0	A L	2		100	0
Do you think teachers need more than just be given the toolkit? Such as, the PD we had about the toolkit and its resources during our initial meeting.	A B C D E G J K L M	10		0	F	1		100	0

Note# Initials are used for the participants; Maybe/Somewhat is considered to be a YES

Chris was another participant who changed his idea about underachievement in gifted students. He believed underachievement referred to students who were 'not able' to reach a certain standard but after the intervention believed it can refer to students who are gifted. The participants believed underachievement could indicate a student hiding their ability.

There were seven questions where the participants responded with a 'maybe' or a 'somewhat', these responses are considered to be for the affirmative. There were three questions where all participants responded unanimously after implementing the toolkit: All the participants have had no professional development on giftedness (100%); all participants believe gifted students should be at least informally identified (100%); and all the participants believe the researcher's professional development was absolutely needed in order to use the toolkit (100%).

6.7: Professional development (PD) and researcher's PD

Professional development is very important for teachers to gain information and knowledge, it expands understanding of effective teaching practices, and keeps teachers informed about curriculum changes. Most of the participants had received no professional development on giftedness (Table 19) except for one, Finn stated he had attended professional development on giftedness within a Masters unit. Even though some participants stated they had attended professional development on underachievement, it seems they attended professional development on students with learning disabilities. Betty was one participant who thought she had been involved in a professional development on underachievement, when she had actually attended professional development on Autism.

Eric stated he did not think there is a real need for teachers to have professional development on giftedness because those students 'stand out in a classroom' (Eric 2019, interview, 16 October). But upon reflection he stated 'maybe teachers need to have professional development on underachievement' (Eric 2019, interview, 16 October). Eric also commented he had not been involved in training (PD) for underachievement. He stated he had been involved in a PD about disengaged students '*but that does not necessarily mean they are underachieving*' (Eric 2019, interview, 16 October).

Finn believed he had been involved in a PD on giftedness because he had attended a Masters unit about the gifted and talented. He also stated he had attended extensive PD on underachievement. Finn said he had worked interstate at an Aboriginal school which required him to have PD. He also said this state seems to spend more money on teachers' PD than Victorian education. Grace thinks she has not attended any PD on giftedness but has attended PD on underachievement. However, once she had commented about the PD, ways to engage students who have learning problems, she had not attended PD on the underachievement of gifted students.

Grace believed she had two examples of professional development that she had attended on underachievement: one on looking at ways to engage students, and the other on students with learning disabilities. Her second example was not about professional development on underachievement it was about learning disabilities. Jayne commented she had not attended any PD on gifted education. Jayne stated the term underachievement for PD, is not the term used. She said it is more about supporting struggling learners. Jayne stated it is more about *'struggling readers, those struggling writers, struggling in maths, that's the context of underachieving that I have done professional development in'* (Jayne 2019, interview, 4 December). But Jayne stated *'if you are saying it's [attending professional development on underachievement] about understanding underachievement in gifted students, the answer would be no'* (Jayne 2019, interview, 4 December). Kerryn believed finding information about giftedness and looking for professional development on the Victorian Government's website is *'like going through a labyrinth where you definitely get lost'* (Kerryn 2019, interview, 12 December). Although she commented that she has not had PD on either underachievement or giftedness, she stated she had attended a PD on giftedness about 20 years ago. Kerryn said that she does her own research and readings on particular areas for whoever is in her class. She said *'no matter what their abilities are, I will go and research how to improve and help them in their learning'* (Kerryn 2019, interview, 12 December).

Luke commented he had not had any PD on giftedness or underachievement. He also said he mostly attends PD on motivating students. May stated she had not specifically had PD on gifted education but for her teaching training which happened overseas, she had attended PD on challenging able students in maths. She also stated she had attended PD on underachievement when it had been about students with learning problems.

When the participants were asked if the discussion, we had during our initial meeting was needed, all the participants thought the professional development about the toolkit was necessary in order to know the different aspects of it. For example: Some participants stated they would not know what was required of them without the PD; other participants commented the PD made the toolkit clearer; and other comments from the participants included: 'The PD was definitely helpful', 'It gave you a better understanding about the toolkit'; and 'the PD was important to have'.

Chris thought the discussion during the initial meeting was important to know which resources to use. For example, he said he did not know he could use the early childhood resources for preps. Chris stated he would have been lost if he had just been given the toolkit. He mentioned he kept on referring back to what had been said during the first meeting. Dana also thought the discussion about the toolkit was necessary since it made it easier to choose what resources to use. She mentioned that one of her colleagues, who helped her with the data, was interested in looking at her own students through using the toolkit.

May believed the professional development about the toolkit was useful. She thought that it made the toolkit clearer. May believed a teacher not having the professional development would not know where to start, what to look for and what to do. She stated there should be a teacher in a school trained with the toolkit so that they can help other teachers select the right resources to use. May said it would have been difficult to know which resources to choose otherwise. However, the appendix in the toolkit lists the type, and age level addressed by every resource.

Although the participants needed to choose their own resources to implement for this study, some participants needed to be directed to the resources that were relevant for their students during the initial meeting in the professional development. To still give these participants choice of resource, they were given multiple examples that would suit their needs.

6.8: Summary of participants' views and chapter

Although the participants had some issues with the toolkit, they believed the toolkit should be placed as reference material in all schools. All the participants agreed that whether it is by informal or formal means, identification of gifted students needs to happen. They believed informal identification should be the minimal action taken, to be able to identify gifted students. A few participants mentioned time constraints for their choice of resource or not being able to complete five resources for this study, which may have restricted the data results. The toolkit (intervention) has had a positive effect on the participants. They believed they now understand more about the behaviours and characteristics of giftedness, and primarily about underachieving gifted students. The participants believe there is more to giftedness than what they had originally known. In other words, they gained knowledge and insight into the underachievement of gifted students and by extension the viability of the toolkit. The toolkit has been found to be a valuable asset for the participants.

While there are many government policies and documents surrounding gifted education, most of the schools involved in this study did not have a gifted education policy or documents in place to cater for their gifted students. The participants changed many responses for the survey questions. Nine teachers provided the results they obtained from implementing the resources in the toolkit: Betty, Chris, Dana, Eric, Grace, Jayne, Kerryn, Luke and May. These teachers relinquished the completed resources they had used for the study, as most of the participants said they did not need them anymore as it was close to the end of the year. These documents have provided an insight into the possible abilities of their students. One participant used 10 resources on the one

student, as she felt this student could be gifted. The results of using these checklists have indicated the student maybe gifted and should be further assessed for possible inclusion in gifted programs. The checklists, rating scales and questionnaires assisted the teachers to gather information about their students and then to make judgements about their students in relation to specific behaviours, knowledge, and skills. The self-nomination resource helped the teachers discover their students' strengths, interests and needs. This resource can be used for curriculum differentiation, to address these specific traits. All the participants agreed that the toolkit would enable them to identify gifted students, especially underachieving gifted students.

The next chapter discusses the findings from all the research data which was obtained from the survey and interview data presented in Chapters Five and Six.

Chapter Seven: Discussion

When using subjective measures 'include, for further assessment, students you [teachers] are not entirely sure about, rather than exclude them – and invite surprises' (Merrick & Targett 2004a, p. 24).

7.1: Introduction

In 2012, the government stipulated that a toolkit was what teachers needed for identification of the various types of gifted students. Since the Government had not produced one at that time (by end of 2018), creating and introducing a toolkit for teacher recognition of giftedness was the starting point for this research. In 2012 the Victorian Government estimated there were around 42,500 gifted students underachieving, and as of 2022 they believed there could be up to 50,000 gifted students underachieving (DET 2022b). This implies the education system was and is deficient in identifying these students.

Many teachers believe they have never come across a gifted student even though they have taught for many years. Other teachers believe all students are gifted in some way. While this may be true, characteristics and behaviours of giftedness are not always evident, which can create a situation where these students do not stand apart in the classroom, especially when they deliberately underachieve. When Lucas (2021) heard a comment made by a teacher about a student 'he couldn't possibly be gifted' (Lucas 2021, Creating safe environments and a sense of belonging, para. 7), she believed that teacher misconceptions needed to be addressed. She commented 'it is important for teachers to have some knowledge and experience of gifted students' (Lucas 2021, Creating safe environments and a sense of belonging, para. 7). In order to improve teacher attitudes and expectations towards gifted education, research has identified engagement with research, years of teaching experience, and professional development (DET 2020; McCoach & Siegle 2007). According to the literature 'it takes between four and seven years of experience for an individual to develop into a competent teacher' (Ünal & Ünal 2012, p. 43). Yet, this does not always include teachers recognising giftedness.

According to the literature, many teachers lack the knowledge to be able to recognise, identify and cater for gifted students. Sternberg (2004) noted, the way teachers conceptualised giftedness (teacher agency) influenced who would have the greater opportunity. In other words, teacher agency plays an important role in the decision making about student’s abilities and what students are taught. Without any prior understanding or knowledge about giftedness, teachers would not know how to identify, let alone recognise, a gifted student, especially an underachieving gifted student.

7.2: Conceptual framework and findings

The conceptual framework, as with figure 12, displays how variables such as the professional development and implementing the resources, can affect the research outcome and findings. The cause-and-effect relationship between each variable for this current research can change the outcome. For example, the professional development and implementing the resources can increase the participants knowledge on giftedness and by extension their ability to identify giftedness. Although no participant identified a gifted student, the intervention has increased the participants’ ability to recognise giftedness, especially in relation to the underachievement of gifted students and to the negative aspects of giftedness.

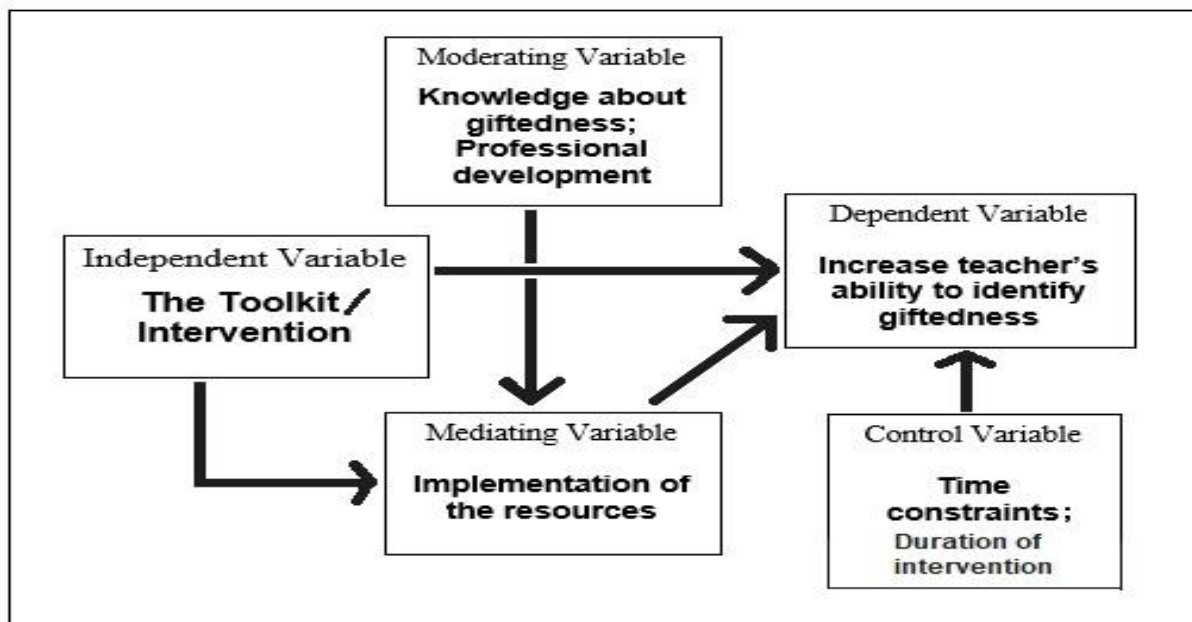


Figure 12: Conceptual framework with variables

Time constraints were considered because many participants found finding the time to complete five resources for this study, hindered their ability to finish all five resources. Even though time constraints did impact on the amount of data received, this variable was not studied and did not impact on the results. Duration of the intervention phase of the study could also be considered a control variable. One participant experienced a much longer intervention phase which turned out to be detrimental for that participant. His results showed he did not increase his ability to recognise giftedness and by extension, to be able to identify gifted students.

7.3: Professional development

The initial meeting with the participants, including the professional development, was important for the participants to be made aware about the toolkit and its various resources. This enabled the participants to look for the characteristics and behaviours listed in the resources, so that various types of gifted students can be identified and supported with the appropriate strategies. The professional development the participants were involved in raised awareness in these teachers which will encourage them to notice students who may be gifted. The Australian Charter for professional learning of teachers and school leaders (AITSL 2012), advocates that professional learning is most effective when it is 'relevant, collaborative and future-focused, when it supports teachers to reflect on, question and consciously improve their practice' (p. 4). Most of the participants believed that since being involved with the professional development session and implementing the toolkit, they are now more aware of the characteristics and behaviours of giftedness, which will improve student outcome. However, the teachers said that without the researcher's professional development they would not have gained such value from the toolkit. Thus, this professional development was not only good or helpful, it was essential and critical. Teachers may believe they are able to identify high potential or achievement, however for identification to happen, teachers need to be able to recognise the characteristics and behaviours associated with the various types of gifted students. Giftedness can be recognised by using

resources such as those in the toolkit. It was found that most of the participants did not have any resources, prior to this study, to use for recognition of giftedness.

Teacher's beliefs or knowledge (teacher agency) play an important part in being able to recognise and identify giftedness in students. Without professional development or research on giftedness, teacher agency will remain unchanged. Teachers need professional development in order to keep up with current educational procedures and practices. The literature is clear on this issue, without professional development teachers are unable to recognise or identify gifted students (Jung & Slater 2018). Some participants noted that they had a mindset as to what constituted giftedness but after being involved in this current research (the professional development, investigating and implementing the toolkit), they noticed it was about looking for a different kind of gifted student and that it had changed their mindset.

7.4: The resources

The National Association of Gifted Children (NAGC) (2008) recommends using both objective and subjective measures for the identification process of giftedness. There are many different types of subjective measures in the toolkit because one resource may not identify every type of gifted student. Therefore, using multiple assessments such as self, peer, teacher, parent, and administrator resources (including objective measures), can identify as many students as possible, who may be gifted. Most of the participants chose to use resources that spanned peer, self, teacher, parent perspectives. Although these resources constitute an informal perspective, they can provide information about students' abilities and what motivates them. Using the self-nomination resource, the participants were able to identify areas that interested and motivated their students. It is also a useful form to identify areas of special abilities.

Results of this study found that after using the toolkit, the participants were able to recognise other characteristics and behaviours of giftedness, even though they had not previously realised that these traits of giftedness could be attributed to gifted students. Moreover, most of the participants did not realise that there were negative traits of

giftedness. These negative traits have been highlighted by using the resources in the toolkit.

Relying on students' performances to identify giftedness can be problematic, when many gifted children who underachieve do not conform behaviourally. But only relying on performance to identify giftedness is problematic when there are many students who are missed. This is where the toolkit becomes a necessity. As specified by Plucker and Callahan (2014), giftedness is developmental, where performance is usually the earliest sign of giftedness and achievement is its outcome. The literature is very clear on this issue: identification should happen as early as possible (Heller & Schofield 2008). Early childhood teachers need professional development and support in order to be able to recognise the signs (characteristics and behaviours) a student may be gifted.

Underachieving gifted children can be difficult to identify from among any group of children, so it is advisable to assess all children using the same resource. By using the resources on all their students, teachers would be able to establish a baseline reference point and be able to monitor subsequent learning gains; identify students who may be gifted as well as gifted students who may be underachieving and notice any learning disabilities, or any other issues or disorders. When the results show students with multiple ticks or yeses (more than others in the classroom), then another resource such as a teacher nomination form should be used only on these students. There is a variety of resources in the toolkit, and while whole class assessments may not identify a gifted student, there are other resources that can be used on individual students.

This study's recommendation that participants use five resources on all of their students, may have been too ambitious because almost half of the participants were unable to implement five resources in the time allocated. Although most of the participants listed time constraints for not being able to implement five resources, three participants did complete five resources for the study. Many participants stated it was too difficult to complete all five resources. These participants were reminded that

implementing the five resources was only for this study and any future resources used might only involve them implementing one or two resources.

Nearly all of the participants used their own choice of resource (from the toolkit) on all of their class students, which was the recommendation. Used in this way, and evaluated correctly, checklists can provide a wide array of assessment tools for teachers. That is, teachers can use them to 'capture and catalogue information about student performance and to inform instruction or provide evidence on which to base evaluations' (Rowland 2007, p. 61). Most of the participants relinquished these resources to the researcher when the interview was over. Most teachers use individual electronic records, so the participants may have annotated their individual electronic records with their understanding of the results of those resources, thus the paper records were no longer needed. Possibly, the participants were trying to be helpful to this research by giving the completed resources to the researcher for analysis.

7.4.1: Completed resources

The resources the participants chose to mostly complete were resources that are considered less time consuming to implement (e.g., checklists, rating scales). If after assessment of the resources there are students who stand out from the class, then a more in-depth resource should be used on those students. However, nine participants voluntarily gave the resources to the researcher after the post-intervention because most of them stated they did not need them anymore. The information contained in these resources could inform the student's next teacher about their strengths and weaknesses and while they may have added this information to electronic records, this information can be used for longitudinal development. It can provide a clearer picture and a comparison as to where the students were, what they have achieved, where they are now and what they need to work on. Longitudinal development provides teachers with evidence of the goals they need to set in order to appropriately challenge all students because of identifying students' prior knowledge. NAGC (2008) state that using subjective measures for longitudinal development, which includes teacher observations, rating scales and checklists, portfolios and performances, and student

educational profiles (along with objective measures), will provide the information teachers need about students' abilities. Merrick and Targett (2004a) also state 'subjective measures allow teachers, parents, peers and the student themselves...to help make evaluative judgements about a student's ability' (p. 8).

As part of this study, specific subjective measures for identification purposes were used. The participants ended up implementing the Victorian Government resource and the Silverman 2 resource. Since 2021, the Victorian Government has recommended using Neihart and Betts' (2010) resource for identification purposes (DET 2021). Using both subjective and objective measures, teachers need to gather as much information to support teachers in identifying a child who may be gifted. The toolkit contains all subjective measures including Neihart and Betts' (2010) resource (listed as ACT Government resource). Neihart and Betts' (2010) resource incorporates six profiles of gifted students. No participant chose this resource to complete. Would it take too long to implement on every student in the class? Was it too involved for teachers? Although this resource is complex compared to other resources, it is a checklist that can be used to record data about the students' abilities and then used to make evaluations to inform practice. It could also be used as a secondary resource for further assessment.

Teachers need to be able to identify the various types of gifted students. They should be open to close observation of gifted characteristics and behaviours, and to the potential need for further assessment. Further assessment may include another resource which covers more characteristics and behaviours of giftedness (such as the ACT Government resource) or resources that can be used for above-level testing. This would be an early intervention strategy which could provide 'information and ensure evidence-based and appropriate educational placements, provisions, and interventions' (Wellisch & Brown 2012, p. 153). But any identification procedures that a school adopts, should be able to identify all gifted students within the school population.

Currently, a lack of an accepted definition of giftedness and underachievement, with no consistent identification methods can lead to variations in the number of students

participating in gifted education programs. A lack of a clear definition of giftedness 'limits policymakers from implementing and evaluating appropriate educational opportunities for students' (McBee & Makel 2019, p. 10). What adds to the problems of identification are researchers and teachers not being consistent about which characteristics and indicators are associated with underachievement and giftedness. There has also been a change in the way giftedness is reported. Gifted students can be referred to in many ways. Different countries may have their own reference for the gifted. These can include: high ability, high potential, exceptional potential, able learners and so on. Even the Victorian Government changed the wording on their website from gifted to high-ability. As mentioned, the Victorian Government believes this change will make gifted programs inclusive to more students. But this change may still exclude gifted students who are underachieving because relying on recognising high-ability can be problematic when underachieving gifted students are deliberately hiding their ability or they do not want to be singled out or they have a disability (e.g., twice-exceptionality), so as not to be included in programs. There are many resources located in the toolkit that contain information about the various characteristics and behaviours associated with gifted students who are underachieving. These resources can help with recognising gifted students who, for whatever reason, are not showing or reaching their potential.

7.4.2: Victorian Government Resource

It was clear from the results of the seven participants, who used the Victorian Government resource, that they were unsure about what to do with them. This may have been the reason behind the participants relinquishing these resources to the researcher. After the researcher had analysed and evaluated the resources, the results showed there were approximately 15 students who should have been referred for further screening.

The cause of this is possibly because the participants did not know how to evaluate them. Information on how to evaluate the resources is located in the toolkit. At the time the researcher's professional development was delivered, the researcher was mindful not to impose on too much of the participants' time, however, this information may need

to also be included in the professional development. Putting the results in a format where they are easily readable and distinguishable (e.g., table form), made recognition much easier than trying to evaluate the resources individually. Without comparative analysis, teachers would not be able to notice if students stand out from other students in the classroom. Appendix G displays the results of the students who scored the most points for their respective classrooms. These results indicate that gifted students are possibly being overlooked and the Victorian Government resource could be used to identify giftedness.

7.4.3: *Parent nomination resource*

When recognition of giftedness is dependent on the school or school district and because there are no local or national policies that outline gifted education practices, teachers may need to use alternate methods. Teachers need to be able to consult and collaborate with the parents and parents need to be able to speak with their child's teacher. Parents may believe that yearly testing or NAPLAN results in schools may identify giftedness. However, this is usually not the case. Parents are usually the first ones to notice qualities (characteristics and behaviours) in their child that could indicate giftedness. This can include qualities such as a vivid imagination, good problem-solving skills but also negative qualities such as being disruptive in class and refusing to do homework. When a gifted child is bored in the classroom, they can display these and other negative qualities (Gallagher, Smith & Merrotsy 2011; Sword 2002; Van Tassel-Baska 1992). The parent nomination resources are used to involve the parents/guardians in the identification process for giftedness.

The researcher was only able to investigate one completed parent nomination resource and have a glimpse at another. Kerryn involved the parents with this type of form because she wanted to find out more information about her student (K1). She believed this student was gifted and wanted the parent's input. Kerryn believed this resource came back as normal. However, the researcher was unable to investigate this resource further. May relinquished this resource (along with others) to the researcher. The researcher believed this resource indicated that the student (M1) was possibly gifted.

The participant, though thought the results were normal. This could indicate the participant was not able to evaluate this resource and that information on making a judgement from such resources should be included in the professional development at the start of the study.

7.4.4: *Wording issues with the survey and resources*

There were comments about some of the wording of the resources. Grace was one of six participants who suggested that certain wording of the resources should be changed because they are subjective. She noticed wording such as 'intense' as problematic, since one person might think a behaviour is intense, while another may think the behaviour is normal. There were other participants who had issues with some of the wording of the resources, asking: What constitutes 'unusual'? How do you judge 'insight'? What is 'special'? Each question could only be answered by knowing all the students in their classrooms. By comparing age related behaviours or indicators, students who are 'special' or who show 'unusual' or 'insightful' behaviours, can but do not always, stand apart from others in the classroom. Wording such as 'high level', 'intense' or 'insightful', does become a judgement point. However, judging how insightful a student is, starts with knowing and having an understanding of that student. This student may show more insightful behaviours than others in the classroom. It may be that a student finds or discovers solutions to problems quickly or has the ability to look at something and find things others cannot see. Teachers do need to be able to judge a student's strengths and weaknesses, and make decisions based on this. Although the participants in this study had issues with some of the wording of the resources, including the Victorian Government resource which used 'intense' and 'high level', the toolkit presents other resources that do not include such descriptive wording. For example, Reis and McCoach's (2002) resource, not only lists the behaviour, but also gives examples for each one.

The participants' own professional discourse was shown by their repeated use of certain words (e.g., catering for the gifted), and they spoke of having no time, working long hours, and having any free time usually taken up by student's issues. Most participants

spoke about how their schools did not cater for gifted students, and some stated they worked after hours at home, in order to cater for their students' needs.

7.5: The toolkit results

The purpose of the toolkit is to help teachers in the process of the recognition of gifted students, including underachieving gifted students. Utilising specific resources in the toolkit that are used for identification of underachieving gifted students, teachers may be able to identify a student who is underachieving and gifted. An identification system that incorporates subjective and objective measures, could mean 'students could be identified whether or not they show motivation in school' (El Khoury & Al-Hroub 2018, p. 107). El Khoury and Al-Hroub (2018) maintained this identification system would allow students to be considered for gifted programs who have 'learning difficulties, behavioural issues, social anxiety, and so on' (p. 107).

While this study used the researcher's toolkit as a means for teachers to recognise giftedness, the results of this study may not be comparable to the viability of teachers using an online toolkit. At the time the researcher created the toolkit, the Victorian Government online toolkit was not available. An email from the Department of Education and Training (L Smith 2016, email, 30 August) confirmed there was no online toolkit. Therefore, the researcher compiled and edited resources to establish the toolkit for this study. These resources were selected because the authors were prominent experts in the field of giftedness and their resources involved many of the characteristics and behaviours associated with underachievement, giftedness and underachieving gifted students.

Selecting the right resource to identify gifted students can be difficult and problematic, especially when it comes to young children as they are growing fast cognitively, making identification more challenging. Identification is a controversial issue because it involves all the pros and cons of labelling, procedures and local policies, along with government issues, such as how much money is allocated for identification and programming. The

identification process must accurately find these students, as it is critical to ensure that these children receive the services they need to thrive in school.

While evaluative assessments have different expectations, purposes, and outcomes, these issues still need to be considered for an evaluation to be effective. This included documenting the survey and interview responses and results, and all the information which came from this research which has been listed in Chapters Five and Six. The question guiding this research is: To what extent is the developed toolkit for this study a viable strategy to support teacher recognition of underachieving gifted students? The participants all believed they had heightened their awareness of giftedness, especially regarding an underachieving gifted student. Also, they believe they have become more aware of the characteristics and behaviours of the varying types of giftedness since using the toolkit. For example, before implementing the toolkit, most of the participants did not realise that many negative behaviours which are associated with giftedness, including characteristics and behaviours that are affiliated with underachieving gifted students. These negative characteristics and behaviours can include (among others): stubbornness, being uncooperative, questioning authority, poor work habits, negative attitudes, underestimating abilities, avoiding doing tasks, lacking self-confidence, fear of failure, and disruptiveness in class (ETC 2012a; Gallagher, Smith & Merrotsky 2011; Murphy & Breen; NSW Policy document 1; and many others). These traits can also cause potential dilemmas with how gifted students are perceived. Being aware of these negative traits may help with identification and can also mediate misunderstandings about these behaviours.

The results of implementing the toolkit have shown an increase in understanding of the characteristics and behaviours of giftedness. The participants became especially more aware of the negative nuances that underachieving gifted students may display. This indicates that the developed toolkit, along with having a professional development session about the toolkit, serves as a viable method to recognise underachieving gifted students, and towards teachers' achieving agency.

Biesta, Priestley and Robinson's (2015) study on teacher agency indicated that teacher beliefs prevail towards the here-and-now (practical-evaluative dimension), and this was found to be strongly influenced by current policy. Their study showed that the lack of influences (beliefs) from the other two dimensions (iterational and projective dimensions), limits teachers in achieving agency. Teachers' beliefs not only cover beliefs about their own teaching, the subject they teach, and their own attitudes as a teacher, but also beliefs about gifted students. These beliefs can have positive or negative connotations. Their beliefs can be compromised with assumptions about characteristics and behaviours of giftedness, whether the student may need support or whether their abilities are learned or unlearned (Matheis et al. 2020).

For this study, beliefs and aspirations articulated by the participants during the interviews were sorted and analysed relating to the agency model (TAT). In other words, this study identified the participants' beliefs and prior knowledge of giftedness (iterational dimension), the implementation of the toolkit (projective dimension) and their new knowledge of giftedness (practical-evaluative dimension). The participants' goal (projective dimension) was to utilise the toolkit in order to identify any gifted students in their classroom. The projective dimension of agency involves teachers making an active contribution to their work and, ultimately to education. The objective of using the toolkit involved action by the participants to be able to identify giftedness. In being able to do this, the participants made an active contribution to their own learning and to their work. The result of this could mean their student's abilities would be acknowledged and their learning needs could be met (practical-evaluative dimension). This allowed the researcher to realise how the participants' agency had been influenced by being involved in this study. The data conveyed the sense of responsibility the participants had for their students, their detailed beliefs about underachievement and giftedness, education and their teaching, and their thinking about how their beliefs contributed to children and students. In other words, they were aware of the importance of their beliefs about their students' abilities and what they are capable of; and the participants wanted to be able to recognise gifted students more accurately.

This study relied on the perceptions of the participants in regards to the toolkit and the resources they used. The results from both the surveys and interviews indicated that the participants have increased their understanding and knowledge of the characteristics and behaviours of gifted students and to a larger extent, of underachieving gifted students. This was a direct result of engaging with the toolkit (intervention). Sufficient time was spent exploring the participants' responses, which allowed the researcher to discover contradictions within their responses. For example, some of the participants believed they had previously received professional development on underachievement, when in fact they had professional development on students with learning disabilities. Underachievement is about students doing less well than might be expected based on potential and is not necessarily the result of a learning disability.

7.6: Misunderstandings and surprises

Teachers can judge many of these behaviours by understanding their students and knowing the characteristics and behaviours associated with giftedness. Some participants were surprised about some of the characteristics and behaviours listed in the survey and the resources, especially because they could be attributed to gifted students. Many of the resources list characteristics and behaviours which can be considered negative for an underachieving gifted student. For example, poor work habits, incomplete work, lack of concentration; low interest in detail; uncooperativeness, daydreaming and many more. These negative traits can result in students being labelled and stigmatised. It has been found that there is a relationship between labelling and stigmatisation. Stigmas can represent a very persistent predicament in the lives of the students affected. They usually take the form of a negative label which can be associated with a behaviour. Teachers are in a position of power and with this they can construct labels (whether it is intentional or unintentional) linked to the associated behaviours (Link & Phelan 2010). This can result in negatively impacting the lives of the students. For example, being labelled as different can lead to marginalisation and bullying (Plows 2014). This can mean a student is excluded in a group, denied involvement in social activities, or they have lesser importance and treated as

insignificant. Even though labelling is used in educational settings to identify students who require additional support, which can help teachers to implement inclusive teaching strategies and identify professional development opportunities (Plows 2014), the use of labelling is controversial. However, 'psychological testing does not label a child gifted or not gifted. It provides a comparative measurement of the child's development in various cognitive domains' (Shenfield 2004, Educational placement, para. 7).

7.6.1: Views on giftedness

Differences happen because there are a wide range of characteristics and behaviours associated with giftedness and that teachers and researchers have different theoretical views. According to Köksal and Biçakçib (2021) current views are based on philosophical grounds, thus 'it may be possible to establish more acceptable theories and approaches' (p. 2). Cramond (2004) suggested giftedness will continue to evolve because it is 'a dynamic process' (p. 15). In Australia the definition of giftedness has altered many times over the years. This has occurred because of researchers' findings and recent views on giftedness. However, according to Manning (2006) teachers who are in general classrooms can watch for certain characteristics and behaviours that 'can identify and better understand exceptional students' (p. 64). But in order to do this, teachers need to be aware of the behaviours and characteristics associated with giftedness. The participant's views on giftedness have changed because of implementing the toolkit. Their teacher agency or knowledge on the characteristics and behaviours of giftedness has increased, especially with the traits associated with the underachievement of gifted students. They now know more about giftedness; and the toolkit has helped with this.

7.6.2: School policy on gifted education

All schools need to have their own policy on gifted education even though this is not a requirement in Victoria. School gifted education policies are important for teachers in providing direction for the teacher on implementing effective learning and teaching practices in order to meet the needs of gifted students (El Khoury & Al-Hroub 2018). When there is no gifted education policy, teachers should still realise that they are able

to connect to and network with their peers for advice and assistance. They should also be able to approach and seek advice from administrators, team leaders, the deputy principal or principal. Not one participant was able to supply a copy of their schools gifted education policy. Many of the participants were unaware about whether or not their school even had a policy about giftedness, and the participants who believed their school had a policy, were not able to supply a copy of this document. Is this because policies are not seen as a lived part of their teaching? Could this be another reason why gifted students are overlooked? Gifted education practices and policies should be available for teachers, in all schools. The absence of policies and professional learning can cause teachers to provide limited responses and support to children. This is another reason to have a state policy on giftedness.

With most of the participants being unaware about their school's policy on giftedness, the participants were unsure about what was required of them, or what to do if they had a gifted student. Before the implementation of the toolkit, the participants implemented ideas and beliefs about giftedness from the iterational dimension, they did not incorporate ideas from the other two dimensions (projective and practical-evaluative dimension). As Biesta, Priestley and Robinson (2015) reported, only involving one dimension 'appears to be not enough to help teachers engaging in more agentic and proactive ways with the situations they are in' (p. 638).

When teacher beliefs only prevail towards the practical-evaluative dimension, it limits teachers in achieving agency (Biesta, Priestley & Robinson 2015). However, the researcher believes, whether or not, most of the participants were able to achieve agency by implementing the toolkit (incorporating all dimensions), it did result in a changed perception of giftedness (practical-evaluative dimension). Hopefully, their new ideas will be incorporated in the classroom and create a discourse with other teachers which can only impact positively on the recognition of gifted students and hence, achieving agency.

7.7: What is next?

Participants wanted to know ‘what do you do next?’ These participants were unsure about what they could do, if they did have a gifted student in their classroom. They seem to be motivated to be able to do more than just assess, they want to support gifted students. While there are many websites on the internet, it is important for teachers to readily have access to different types of resources within their school. Some of the participants thought the toolkit was going to give them information in response to their questions: What’s next? Where do I go for more information? How do I cater to their needs? Most of this information should be included in a school’s gifted education policy or at least an implementation plan. Without such a policy, teachers may be unaware of what they need and what they should do. Teachers may have limited knowledge about the characteristics and behaviours of gifted students – without this knowledge many gifted students can be overlooked – and do not know how to recognise, or what is involved in identifying, a gifted student. Teachers need to know they can access other personnel at their school for help. Moreover, teachers may have limited resources on how to cater for gifted students. These are only a few examples of what teachers need to know. The toolkit contains information regarding resources teachers can access for gifted education in general.

An aspect of teacher agency is about how teachers validate and execute their practice, and their engagement with policy (Priestley, Biesta & Robinson 2016). None of the participants were able to achieve the latter. They were unable to share a copy of their school’s policy, nor did they know if their school even had one. While engagement with a gifted policy seems not to have occurred with the participants, schools in Victoria are not required to have a gifted policy. However, the participants made an active decision to be involved in this current research in order to extend their professional learning, and to be able to identify gifted students. In this sense teachers became developers of their own practice (structural sub-dimension of teacher agency). The participants would therefore be able to validate their practice by incorporating identification of giftedness, so that they can cater for these students.

Firstly, teachers need to find out if their school has a gifted policy and what is involved to have a student identified as gifted. Once a student has been identified (usually using multiple assessments, including examples of their work, implementing a toolkit that has resources about giftedness and so on), teachers need to implement teaching practices which need to be conducive to gifted students' ways of learning. In other words, these students need to have individualised learning plans, especially curriculum differentiation (DET 2021).

The Victorian Government's online high-ability toolkit (DET 2021) was finally published in 2021. The participants commented that without the professional development, they would not have been able to use the hardcopy they received at the beginning of the study. It would be interesting to find out if teachers using the high-ability toolkit can implement it without needing to have a professional development session, and especially whether they could use the resource to identify underachieving gifted students. The high-ability toolkit proposes that teachers can identify gifted students using their toolkit, and cater for gifted students' needs. Sections 1 to 5 are about identification, and Sections 6 and 7 are about what to do next. When the participants received the toolkit, information on what to do next was not included. Since then, this information has been placed in the researcher's toolkit. This aligns with what the participants were asking. The Government's toolkit also recommends that schools should have a 'whole school approach to high-ability' (DET 2021, Planning for high-ability, para. 2). This includes implementing the Framework for Improving Student Outcomes (FISO). However, unless the government extends the timeline for the *Student excellence program* (section 7 of the high-ability toolkit), it is expected to end in term 4 of 2022. This does not include their toolkit or the implementation work that has occurred as a direct result of engaging with it. Following on from comments made by the participants, the researcher's toolkit now contains links to many websites with information for teachers on giftedness and resources that teachers can implement in the classroom. The purpose of requesting the participants to implement these specific resources, aimed to see if they were the best options for identification. Whilst using specific resources for this study could be seen as a short coming of the study, asking

the participants to choose and use other resources of their choice diminished this issue. It would be very interesting to find out what the participants for this current study would think about the high-ability toolkit.

Many studies have used checklists, rating scales and other types of resources to identify gifted students, but there is a lack of studies on how effective they are for identifying gifted students especially underachieving gifted students. Teachers also need to be aware that formal identification occurs by a trained psychologist, especially with expertise in the field of giftedness. However, this usually happens after informal identification methods.

7.8: Summary of chapter

This chapter discussed the findings from the analysed data. The evaluative assessment included documenting all the survey data, interview results, and using all this data to inform this research. The data has shown numerous insights into the participant's knowledge on underachievement and giftedness. In fact, the findings showed that most of the participants had limited knowledge on giftedness when compared to the expert's responses. However, most of the participants stated that the toolkit extended their knowledge and gave them a better understanding about the characteristics and behaviours of giftedness. The results from both the survey and interviews have indicated a better understanding of giftedness, and this was especially pertinent to underachieving gifted students.

All the teachers agreed they would use the toolkit in the future but also stated teachers would need more than just the toolkit. The participants agreed the professional development on the toolkit and its resources at the beginning of the study was very beneficial. During the interview Betty stated '*I think teachers should have the same discussion we had when we first met. This information should be put regularly into professional development*' (Betty 2019, interview, 13 September).

Without using the resources in the toolkit, many of the behaviours and characteristics of underachieving gifted students are not immediately obvious or evident. Examples of this include the following behaviours: rushes school work, is easily distracted, is confrontational, displays a bad attitude towards school, and many more. In other words, gifted students who underachieve do not always present themselves as being gifted. The resources in the toolkit can help with identifying such students.

Teachers need to be aware of any policies their school might have. A gifted education policy should indicate what they need to do, who they need to approach, who could assist them with their student, and the resources they can access, but most policies are often at the vision level and do not necessarily prescribe detail as mentioned. Mostly, policy outcomes fall short of matching expectations of teachers (ETC 2012a). But without an agreed definition of giftedness, hinders educational opportunities for many students.

The next chapter presents the conclusions the researcher has made.

Chapter Eight: Conclusion

According to Cornejo et al. (2021), 'there has been an interest in the underachievement of gifted students since the late 1950's ... yet, there is still a need for more studies and research' (p. 406).

8.1: Research Limitations

Methodologically, this study is a qualitative research project and as such, the limitations of any qualitative study can occur. For example, by using a sample size of 11 participants, limitations may apply to its forecastable nature in respect of whether the sample size can be projected to a larger population. The participants were specifically targeted for this study; they were registered teachers, who currently taught in schools, and all were teaching in the Western suburbs of Melbourne. Even though their names were changed for anonymity, this cohort was not a culturally diverse group of teachers and there was a gender imbalance which did favour female participants. Although this could be seen as a limitation to the study, it was not intentional. The researcher accepted every teacher who wanted to be involved in this research, regardless of culture or gender. This research was not biased towards any person. The participants were grouped by the researcher according to their responses to the survey questions and responses during the initial meeting. However, the researcher placed participants in the expertise group in order to have some participants in that group to use for comparative purposes, but when the experts became involved in this study, this classification was no longer necessary.

The design of this study was very specific to the research question: To what extent is the developed toolkit for this study a viable strategy to support teacher recognition of underachieving gifted students? Even though this study may not be able to be compared to other studies and the conclusions drawn may not be definitive, the researcher believes this study may be extended to a larger population because this study has identified that the use of the intervention (toolkit) increased the participants' knowledge on giftedness, especially in respect of the characteristics of underachieving gifted students; the survey results compared to those of the experts showed this in

relation to the intervention. This study could also be used for directional research, which could complement the findings of this study. Directional research is used to answer specific usability questions, with this research evaluating the use of the developed toolkit. As mentioned, some of the participants did not like some of the wording of the resources, and most of the participants needed to implement resources which were quick and easy to use. Also, not having participants from all the year levels, could create a limitation within this study, and these missing year levels may cause the study not to be repeatable, even though the results have shown the participants improved their ability to identify characteristics of underachievement and giftedness. Further research could include teachers from a range of year levels or a larger number of participants from a cross section of schools.

To obtain multiple perspectives and greater depth of insight about the resources, the researcher was clear on the position as to why the participants were required to use specific resources, as well as, the participants choosing other resources from the toolkit. However, during the professional development some of the participants were directed towards resources which were appropriate for the year level they were teaching. The researcher did not specify what other resources the participants needed to use to make up the five resources for this study. Some participants wanted to know other resources they could use, so they were given multiple examples so as to still give them choice. The professional development time with the participants was limited as the researcher was careful not to take up too much of their time. Although the toolkit contained information on how to evaluate the resources, with hindsight, this information should be included in the professional development as a longer session with information on evaluation procedures may have had greater impact.

During the pre-survey stage of this research, some of the participants chose to mark the survey questions both true and false creating a third choice of true/false. This fits with current beliefs of giftedness and the responses the experts gave. Many participants also wrote additional comments about the survey questions at their own initiative. All the participants chose to mark many of the survey questions both true and false, rather than

just a true or false. By choosing the dual response, the researcher believes the participants could have indicated two very different views: the participants were unsure about the answer or did not know (some of the participants indicated this when they were filling out the survey), so they chose to mark the question as both; or they thought the question could be attributed to both or was context-dependent (sometimes yes and sometimes no), and thus the survey questions had no single correct answer. Either way, the results of the survey may not be represented accurately. But in saying that, the experts chose to mark many of the questions one or the other (true or false), with some of the survey questions being both. The experts commented that these questions were dependent on the individual, stating 'individualised' or 'variable'. The participants were told during the professional development that the survey was about identifying what they knew and what their current ideas were on giftedness.

Another possible limitation of the study could be that the teachers believed the toolkit helped them in identifying gifted children, but this may not have been the case if they had selected and used resources which were not age appropriate or had not used comparative analysis. Even though the participants felt they were more proficient with the toolkit, and defined it as 'useful', the researcher was dependent on their perceptions, but there was no way of knowing whether a gifted student (especially an underachieving gifted student) could actually have been identified. However, what this study indicated is that it is possible for teachers to develop more confidence and better strategies to identify these children.

Other limitations can occur also because of the cost and availability of obtaining some gifted rating scales. Using only free resources in the toolkit may constitute a limitation to this study, but it could also be a strength because the toolkit can be made widely available to all schools. There can be a cost involved for many resources. For example: Psychological Assessment Australia (PAA), which provides Pfeiffer and Jarosewich's Gifted Rating Scale (GRS) (2003), can be expensive. Their GRS is an observational chart and is completed through teacher evaluations. To be able to obtain their forms (GRS-S: School record forms, GRS-P: Preschool / Kindergarten record forms and the

GRS-manual) the cost, would be: GRS-S = \$110.00 (appropriate for children aged 4 to 7 years of age), GRS-P = \$110.00 (appropriate for students aged 6 to 14 years of age) and GRS-manual = \$198.00. If involved in early years or kindergarten, the forms one would need are the GRS-P and the GRS-manual, a total cost of \$308.00; Melbourne Child Psychology Services (MCPS) (2022) uses standardised cognitive (intelligence) tests, standardised achievement (academic) tests and the Gifted Assessment Index. These assessments take place over four sessions (initial consultation with parents, two assessment sessions and a feedback session) and cost approximately \$2400 (MCPS 2022, Assessment for giftedness, para. 7). Other sources have listed these types of assessments as costing around \$475. Other examples include the Weschler assessments and the Stanford-Binet test. The Weschler individual achievement test for ages 6.0-16.11 years, including the kit and manual, cost up to \$1400. The Stanford-Binet scales cost up to \$1261. These are expensive and can only be administered by a psychologist. Using cost-free resources for the toolkit does not mean they are any less worthwhile. The information contained in these assessments can provide teachers with insight into students' abilities.

Another potential limitation of qualitative research, is that there may be potential for bias on the part of the researcher through bringing their own prior knowledge and beliefs, which could skew the data and insights gained from it. In this study, bias was minimised by the researcher using the IBM SPSS program for the survey results and the participants' reading transcripts of their comments to verify what was said. Additionally, this research involved face-to-face interviews where there could have been interpersonal and ethical issues. However, this study did not result in any conflicts. Listening and being aware of the situation minimised these issues.

Considering the amount of time needed to complete five resources for this study on every student, some participants stated that they could not complete the study because of their current workload and needed to find the time to complete the resources. This could have resulted in participants rushing to complete the resources, resulting in recording misinformation about their students or not choosing the right type of resource

for their students. The data resulting from this situation could have been a limitation to the study because of containing misleading or incorrect information. Nevertheless, this was not the case for this study; the researcher did check the resources which were used by the participants and found they did use the right age-related resources. However, because the participants relinquished the resources they had implemented to the researcher, it was initially unclear as to whether or not they had interpreted the results correctly. After the researcher had investigated this data, it was clear the participants had either not investigated these results or did not have the time to look at them when they passed the information to the researcher. Repeated studies in Australia and overseas, have found that teachers are stressed, overworked and time poor because of excessive workloads. Monash University (2020) conducted one of Australia's largest surveys of teachers (2444 members of the teaching profession), which showed 71% of educators feel underappreciated, are shown little respect and are overworked, and 76% did not find their workload manageable.

The results showed nearly all the participants used resources which were expeditious and uncomplicated to implement (Table 18). However, even though teachers are time poor, research is essential to discover new knowledge and facilitate learning. With most of the participants choosing resources that they believed were the easiest ones to implement, does this mean they could have limited the information they gathered about their students? Could it indicate they have not chosen the best or right resources for their students?

The researcher believed the answer to these questions relate to the fact the participants were asked to implement five resources. Some of the participants who did use five resources commented on finding the time to complete the resources was difficult. These participants commented that they completed the resources during their own time at home.

Limitations of this research included application to practice and methodological limitations. Methodological limitations included sample size (although in qualitative

research this is less relevant) and data inconsistencies. The scope of analysis was limited because of the sample size, and that there is little to no prior research studies on the viability of a toolkit.

8.2: Research outcomes

Even though in Australia there has been agreement between state and federal government inquiries into identification and gifted education, there is still no federal directive for gifted and talented education (Jolly & Robins 2021). The Education and Training Committee (2012a) inquiry in Victoria painted an 'unsatisfactory picture of students whose significant potential to excel is often not even identified let alone nurtured...These students are being let down by the education system' (p. xxi); and yet over 10 years later the number of gifted students who are still not identified is disgraceful and inexcusable. The DET's (2021) latest policy change is to use the term 'high-ability' instead of gifted, which could provide an avenue for more students to be included in programs designed for gifted students. The DET (2021) believes using 'high-ability' will provide better access, greater opportunities and resources for students who may otherwise be overlooked or excluded. Nevertheless, this could create confusion about who gets into gifted programs. High-ability means the student is working to a high level, and this can limit access to gifted programs when gifted students are underachieving. Even with this change, teachers still need to be able to implement identification procedures to recognise gifted students.

Teacher Agency Theory (TAT) supports teachers' and students' achievements at school, and a way to facilitate this is for teachers and researchers to come together to participate in research to explore new ideas or theories. Teachers' agency plays a pivotal role in what and how the curriculum is taught. How can teachers recognise, identify, and cater for gifted students if they lack the knowledge of the characteristics and behaviours of giftedness. Not only has this study aimed to increase the participants knowledge on giftedness, especially on underachieving gifted students, it has positively impacted on the way they now perceive negative behaviours of gifted students. In other words, the participants have gained a better understanding of the characteristics and

behaviours associated with the underachievement of gifted students. This research has resulted in a change of mindset for most, if not all, of the participants. This has created new avenues for their curriculum planning by incorporating new ways to cater for underachievement of gifted students.

This toolkit draws together significant resources that can be utilised by teachers in ways that encourage identification of various types of giftedness. As a direct result of using the intervention, the participants have mostly (82%) increased their knowledge of giftedness by recognising more associated behaviours. Most participants (64%) have also increased their knowledge of underachievement, especially those behaviours associated with underachieving gifted students. They now believe that using the toolkit will enable them to identify underachieving gifted students. Using the toolkit has been found beneficial for teachers to recognise various characteristics and behaviours of giftedness. This is essential for potential identification to happen.

While all the participants improved their knowledge or understandings on the behaviours of giftedness and underachievement, they all agreed that gifted students should be formally or informally identified. In an email, Finn was the only participant who commented '*it depends on the circumstances*' (Finn 2019, interview, 11 November). He believed if students are supported at school, then they do not need to be formally identified but if students are struggling, they should be formally identified. All other participants stated that gifted students should be identified by formal methods. As mentioned previously, this can be costly. So, informal methods such as the toolkit can be utilised for identification purposes.

Nearly all the participants (91%) stated they had no professional development on giftedness and most (64%) stated they had no professional development on underachievement. Some of the participants stated they did attend professional development on underachievement when they had attended professional development on learning disabilities. Although Eric stated in the interview that he had not attended any professional development on giftedness, he believed they were not necessary '*/*

don't think there is a need' (Eric 2019, interview, 16 October). He believed gifted students 'stand out' in the classroom, but when reminded about underachieving gifted students, he stated *'Well, maybe teachers do need to have PD on underachievement. Your toolkit helps here, the checklists show behaviours associated with that'* (Eric 2019, interview, 16 October). Professional development is essential in order to strengthen teachers' awareness and knowledge. It enables teachers to feel engaged and to raise student achievement levels. Professional development allows teachers to become aware of current information, and makes them feel like they are receiving information to help them be better teachers. This keeps teachers knowledgeable about new research about how students learn, emerging resources and technology for the classroom and much more. According to the DET (2019b), ongoing professional development is critical to ensure schools and their teachers obtain information on current and future developments in education. In 2012, the Education and Training Committee in Victoria (ETC 2012b) recommended increased professional learning opportunities as well as that schools have policy support for professional learning (recommendations 41 and 42). This has still not happened.

The toolkit was well received by the participants, most of whom expressed having learnt from implementing it, and all of them saying that they would use the toolkit in the future. This feedback was very positive. They also believed they could now inform other teachers about the toolkit which would result in more gifted students being recognised and the development of a curriculum that caters for gifted students. However, given the researcher did tentatively recognise a couple of new gifted students and that the participants did not recognise any new gifted student from using the toolkit, being able to understand and use it may not be so straight forward. Most of the teachers stated that the professional development before the implementation of the resources was absolutely necessary. This application to practice has been identified as a shortcoming with the toolkit because the participants stated they needed the professional development in order to implement it. The discussion in the professional development was intended to only provide information about the toolkit and its resources but when questions were raised about particular characteristics and behaviours in the survey,

other information needed to be discussed. In fact, during an interview Betty stated '*I think teachers should have the same discussion we had when we first met. This information should be put regularly into professional development*' (Betty 2019, interview, 13 September). The participants liked the toolkit and having it explained, they also believed an online toolkit would certainly not be enough to identify giftedness.

The participants thought that without the professional development, most of them would not have known where to start, what resources to use and how to evaluate them.

Research has shown that without professional development or preparation 'educators lack the knowledge needed to accurately identify gifted students for acceleration or specialised gifted programs; and they do not learn how to use differentiation strategies' (WCGTC 2021, p. 2). With including the professional development, the toolkit definitely had an impact on the participants. It has encouraged the participants to consider underachievement in gifted students. By raising awareness with these teachers on underachieving gifted students has led to their active engagement in increasing their knowledge on this issue, in other words expanding their teacher agency.

Although the resources in the toolkit gave various examples of underachievement and giftedness, in answering the research question 'To what extent is the developed toolkit a viable strategy to support teacher recognition of underachieving gifted students?', it was evident that the toolkit on its own may not be enough for teachers to recognise underachieving gifted students. Including a professional development about the toolkit seemed to be the key to helping teachers understand more about giftedness, especially in characteristics and behaviours associated with gifted underachievement. All teachers agreed that implementing the toolkit should be an important aspect of the curriculum. One participant, Dana, believed the toolkit to be a valuable resource which should be available in all schools as a reference.

There are gaps in education and knowledge that has led to gifted students not being identified and their needs not being met. This is very pertinent to underachieving gifted students. To be able to identify these students, effective methods need to be

researched. As there is little research on how effective toolkits or resources are for helping teachers to identify gifted students, more needs to be done in this area to combat these downfalls.

8.3: Summary of conclusions

Problems associated with educational change in giftedness have been repeatedly highlighted and are still encountered. Yet educational reforms or change are influenced by teacher's agency. This research has helped fill gaps in the knowledge about the value of utilising the resources to help identify gifted underachievement. There has been an impact on teachers' agency with their understanding and knowledge on giftedness changed as a direct result of implementing the toolkit. The participants became more aware of the characteristics and behaviours associated with giftedness, and especially for underachieving gifted students. The results of this research have built on existing knowledge, that checklists and rating scales can provide teachers with evidence that a student maybe gifted. While previous research mainly focused on individual use of particular resources, the toolkit provides teachers with a comprehensive choice of different types of resources to use for recognition of the various types of giftedness, including gifted underachievement.

This study is important in several ways:

1. The results have indicated that the toolkit has increased the participants' understanding of underachieving gifted students.
2. The design of the toolkit has given the participants a tool to be able to recognise the various types of giftedness.
3. Whether or not the term is 'high-ability' or 'gifted', the students who are underachieving still need to be identified.
4. Most importantly, the developed toolkit, along with the professional development, seems to be a viable method for teachers to be able to identify underachieving gifted students.

But in order to say the developed toolkit was viable, there needs to be more research on the effectiveness of the toolkit including the professional development, especially on a larger scale.

8.4: Future directives

One of the findings from this research showed that teachers do need to have professional development on giftedness and gifted education. The results showed that the participants had limited knowledge on giftedness even though some of them thought that they were knowledgeable. Gifted teacher education modules should include:

1. Defining underachievement, giftedness, and gifted underachievement
2. Characteristics and behaviours related to giftedness and underachievement in gifted students.
3. The twice-exceptional student
4. The toolkit and its diverse types of resources including assessment of the resources.
5. What do I do next?

These modules should be utilised for professional learning and given in the ascending order. Based on the findings of this research, the order of the professional learning is essential. The reasons for this are:

1. After implementing the toolkit, the participants altered their definitions of giftedness. This implies they did not realise what it means to be gifted.
2. The participants had no idea about the negative characteristics and behaviours associated with giftedness.
3. While the participants were not asked about twice-exceptionality, it is important for teachers to be aware of these students. Quite often these students are recognised only for their disability and not for any ability.
4. The results of implementing the toolkit showed that the participants' knowledge of giftedness increased. They became more aware of the characteristics and behaviours associated with giftedness. It was found that the participants were unsure how to assess the resources, with some participants not implementing the resources on all their students which is a requirement for implementing them.
5. It was found that many of the participants wanted to know what you do once you have identified a gifted student.

The outcome of being involved in these modules, would be teacher's learning and knowledge about giftedness would increase, resulting in a change of teacher's practice to cater for students' needs. Their agency would be enhanced (practical-evaluative dimension).

8.5: Recommendations

The key finding of this research is that the participants increased their knowledge on underachieving gifted students because of implementing the toolkit. While this equates to the toolkit being a usable and feasible method for teachers to understand more about giftedness and underachievement, then by extension, the toolkit is a viable method to recognise underachieving gifted students. The implications of this research suggest the findings are important for teacher practice, policy, and subsequent further research. Further research should include a larger number of participants, with a range of year levels, from a cross section of schools. While the participants believed they needed more than just obtaining the toolkit, further research should investigate Victoria's online high-ability toolkit.

Gifted students were, are, and will be very important to society. Further research is needed to strive to find solutions and move beyond just describing the problem. To enrich our knowledge on the underachievement of gifted students, it is recommended that further research focuses on:

1. The impact of using the developed toolkit, including developmental work, and refinement of the toolkit;
2. Raising awareness of underachievement in gifted students at the school level;
3. The development of university level units about giftedness – and underachievement – for pre-service teachers;
4. Introducing professional development on giftedness – and underachieving giftedness – with in-service teachers.
5. Professional development should also include information on how to investigate and assess the results of the implemented resources.
6. Development of a state or national gifted education policy.

This current research has contributed to known gaps in the knowledge about underachieving gifted students. It has utilised resources in the toolkit to help teachers recognise characteristics and behaviours of gifted underachievement. As a direct result of implementing the toolkit, the participant's knowledge or teacher agency has been impacted. Without, at least, a school policy on gifted education, teachers lack the direction to be able to meet the needs of gifted students. Although the participants found completing this study challenging to find the time to implement the resources, even though they saw it as having value, illustrates the difficulty of the current educational situation. Teachers have competing demands and inadequate training when it comes to the identification of giftedness and to gifted education. This needs to change, so that gifted and underachieving gifted students are more effectively recognised and helped to reach their potential.

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Appendices:

Appendix A: Information to participants involved in research

Appendix B: Consent form for participants involved in research

Appendix C: Survey sheet

Appendix D: Toolkit

Appendix E: Interview schedule

Appendix F: Participants comments after intervention

Appendix G: Data from the Victorian Government Resource

Appendix A: INFORMATION TO PARTICIPANTS INVOLVED IN RESEARCH

You are invited to participate in a research project entitled:

'A toolkit for teacher recognition of underachieving gifted students: An intervention study with Victorian teachers.'

This project is being conducted by a student researcher Kerri Lyons as part of a PhD study at Victoria University under the supervision of Dr Debora Lipson from the Arts, Education and Human Development faculty.

Project explanation

The purpose of this research will be to investigate from a teachers' perspective, how useful a toolkit will be for the recognition of gifted students. The Education and Training Committee and the Department of Education, Early Childhood Development have recommended the use of an online toolkit that will help identify underachieving gifted students as a major part of their strategy. However, as this toolkit has not yet been developed or introduced, there is no research determining if this is a recommendation that will impact positively on teacher practice. Using a toolkit compiled by the researcher, this research will investigate the viability of a toolkit as a strategy for recognition of underachievement and giftedness.

What will I be asked to do?

You will be asked to sign a consent form that will indicate your willingness to participate in the project. Participation will involve a one-on-one interview at your school in a private location to avoid interruption. Firstly, you will be asked to fill out a survey on the characteristics of giftedness, then be involved in a brief professional development involving the characteristics and indicators of underachievement and giftedness. Following this, you will be instructed on the use of the toolkit, its content and its various resources. This initial meeting will be recorded (audio only) and it will take approximately 30 minutes to complete. Secondly, you will be asked to implement this toolkit in your classroom. You will have approximately one full term to do this. Once this has been completed, you will be required to attend an interview, where you will complete a survey and respond to an interview schedule regarding the toolkit.

What will I gain from participating?

There are no monetary reimbursements for participating in this research. Hopefully you will gain the knowledge that you are helping to understand and recognise underachievement in gifted students. Each participant will receive a toolkit.

How will the information I give be used?

The information that you provide will be analysed qualitatively to assess how teachers recognise giftedness in their students using the toolkit provided. The overall results will be used as part of a thesis for a doctorate degree.

What are the potential risks of participating in this project?

This project is considered low risk, with all being over the age of 18 years. In the event of an adverse reaction during or after the interviews, a VU counsellor Dr Carolyn Deans will be available to speak to the participants. Carolyn is a clinical psychologist and a registered counsellor. She can be contacted on 99192334 or by her email Carolyn.Deans@vu.edu.au. Every participant has the right to withdraw from the project at any time.

How will this project be conducted?

The project itself will be conducted confidentially and each response will not be identifiable. Transcripts of the responses will be analysed and discussed in the researcher's thesis.

Who is conducting the study?

Chief investigator: Debora Lipson, Email: Debora.lipson@vu.edu.au Mobile: 0402900858

Associate investigator: Valerie Margrain, Email: Valerie.margrain@vu.edu.au

Student investigator: Kerri Lyons, Email: kerri.lyons@live.vu.edu.au, Mobile: 040831132

Any queries about your participation in this project may be directed to the Chief Investigator listed above.

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne. VIC. 8001. email Researchethics@vu.edu.au or phone (03) 9919 4781 or 4461

Appendix B: CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH

INFORMATION TO PARTICIPANTS:

We would like to invite you to be a part of a study titled: **'A toolkit for teacher recognition of underachieving gifted students: An intervention study with Victorian teachers.'**

The purpose of this research will be to investigate from a teachers' perspective, how useful a toolkit will be for the recognition of gifted students. The process will involve a survey and a professional development in the form of an interview. You will also be instructed on the use of the toolkit, its content and its various resources. You will have approximately one full term to implement the toolkit. Once this has been completed, you will be required to attend a final interview, where you will respond to an interview schedule regarding the toolkit. This project will be anonymous and all information provided will be confidential. There are no foreseeable associated risks involved in this project other than inconvenience.

CERTIFICATION BY PARTICIPANT

I, _____ (Name)

of _____ (School)

Email _____

certify that I am at least 18 years old* and that I am voluntarily giving my consent to participate in the study:

'A toolkit for teacher recognition of underachieving gifted students: An intervention study with Victorian teachers.'

being conducted at Victoria University by: Dr Debora Lipson.

I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the research, have been fully explained to me by: Kerri Lyons, and that I freely consent to participation involving the below mentioned procedures:

An initial meeting conducted by Kerri Lyons involving a survey, professional development and instructions on the toolkit's content and its use

Recording the interviews (audio only)

Implementing the toolkit

Follow up survey and an interview

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed: _____

Date: _____

Any queries about your participation in this project may be directed to the researchers:

Chief investigator

Dr Debora Lipson

Email: debora.lipson@vu.edu.au

Phone: 0402900858

Associate investigator

Dr Valerie Margrain

Email: Valerie.margrain@vu.edu.au

Student investigator

Kerri Lyons

Email: kerri.lyons@live.vu.edu.au

Appendix C: Survey

WHAT CHARACTERISTICS DO MOST GIFTED STUDENTS POSSESS? Pre/Post-survey

Please mark (X) the following questions True or False about your beliefs on gifted students.

1. T__ F__ Get excellent grades (A's) in all major subjects. (Language, Arts, Math, Science, etc.)
2. T__ F__ Have high verbal ability and can discuss in elaborate detail.
3. T__ F__ Usually completes all classwork and homework.
4. T__ F__ Read well about a number of subjects, or one to a greater degree.
5. T__ F__ Are highly critical of themselves (have high expectations).
6. T__ F__ Work well in groups.
7. T__ F__ Have wild, silly ideas.
8. T__ F__ Enjoy tests.
9. T__ F__ Are helpful to teachers and other students.
10. T__ F__ Have good attendance.
11. T__ F__ Constantly asks questions that are unusual.
12. T__ F__ Can exhibit low self-esteem.
13. T__ F__ Stay on task for extended periods.
14. T__ F__ Prefers to be alone and do independent tasks.
15. T__ F__ Have a great sense of humour - loves to joke, pun and wisecrack.
16. T__ F__ Work hard.
17. T__ F__ Are the first to answer questions.
18. T__ F__ Copy work accurately.
19. T__ F__ Questions teacher and rules.
20. T__ F__ Are good memorisers.
21. T__ F__ Enjoy physical education classes.
22. T__ F__ Have good penmanship.
23. T__ F__ Are sensitive to other's needs and to current events of global importance.
24. T__ F__ Learn to read early.
25. T__ F__ Enjoy school.
26. T__ F__ Enjoy being with peers.
27. T__ F__ Are motivated by rewards from teacher or parent.
28. T__ F__ Have no behaviour problems.
29. T__ F__ Can have learning disabilities.
30. T__ F__ Exhibit special skills, unusual for age.
31. T__ F__ Exhibit daydreaming behaviour.
32. T__ F__ Find solutions in different ways using common materials.
33. T__ F__ Have limited areas of interests.
34. T__ F__ Prefer structure, organisation and consistency.
35. T__ F__ Find school boring.
36. T__ F__ Like to take risks and apply themselves.
37. T__ F__ Can be disruptive in class.
38. T__ F__ Enjoy repetitive tasks.
39. T__ F__ Like to be challenged.
40. T__ F__ Have complex thoughts and ideas.

Teacher _____ School _____

Appendix D: TOOLKIT

Scoring and evaluating the resources

Toolkit contents: Information about the resources

The Resources

Other Resources

Gifted and Talented information and resources for teachers

SCORING AND EVALUATING THE FORMS

Various Resources:

Unless otherwise stated in the 'information about the resources' section, most resources require the teacher to complete each resource on their whole class. This enables comparison of each student's score. If some student's score higher than most of their classmates, then further evaluations need to happen with those students.

Scoring a peer nomination form:

The scoring procedure for peer nomination forms: a student would receive one mark each time his or her name was chosen for a question by his or her classmates. All marks for each student are summed and then divided by the class size in order to produce the mean peer nomination score, which allows evaluation of the scores across classrooms irrespective of class size. The possible score of a student would range from zero to the number of classmates (this depends on the responses by the students). The higher the score a student has, the more intelligent he or she is judged to be by his or her classmates. (Teacher should follow up with another resource such as NSW 2).

The self-nomination form:

This form can give the teacher a general view or summary of a student. It can be used to determine interests and skills a student may possess. For example, if a student commented they have an interest in maths and science and they are good at it. Then it may be worthwhile to find out where they currently sit. Also, it may provide the teacher with valuable information on subject matter, which could be introduced in the classroom as part of the curriculum to inspire and create enthusiasm in the students.

TOOLKIT CONTENTS

Compiled and edited by: Kerri Lyons

NAME/SOURCE	TYPE	AGE	IMPLEMENTATION
<p>ACT policy document Neihart, M & Betts, G 2010, Profiles of the gifted and talented. http://www.det.act.gov.au/_data/assets/pdf_file/0009/587304/Gifted-Underachievers.pdf</p>	<p>Checklist</p>	<p>Various age groups</p>	<p>This checklist contains a very detailed list of characteristics and behaviours of underachieving gifted students. The first five types indicate characteristics of underachievement in gifted students and the sixth type indicates characteristics of a gifted student. Even though this checklist is extensive, it is a very easy resource to use.</p>
<p>Allan Allan, B 2002, Identifying and Providing for Giftedness in the Early Years https://gifted.tki.org.nz/assets/Uploads/files/Identifying-and-providing-for-giftedness-in-the-early-years-Allan-B-2002.pdf</p>	<p>Rating scale</p>	<p>Early childhood (age 3-5 years)</p>	<p>This scale incorporates behavioural indicators of giftedness for young children. When half or more indicators in one headed area are observed 'frequently' or 'almost always' the program for this child should be differentiated. Further assessments need to be considered. The instructions for use are located in the pdf.</p>
<p>CCEA & NCCA Checklist for teachers http://ccea.org.uk/curriculum/sen_inclusion/gifted_and_talented</p>	<p>Checklist</p>	<p>Various age groups</p>	<p>Even though it uses an extensive characteristic list (2 pages), it is an easy resource to use.</p>
<p>Clark <i>Growing up gifted</i> Clark, B 2008, <i>Growing up gifted</i>. Pearson education, New Jersey</p>	<p>Checklist</p>	<p>Various age groups</p>	<p>Suitable for various ages. Looks at identifying behaviours of giftedness. Quick resource to use.</p>
<p>Eyre Nebraska Starry night: Individual record sheet</p>	<p>Checklist</p>	<p>Various age groups including young children</p>	<p>Nebraska Starry night individual record sheet is a checklist which should be used over a designated period, e.g., a month, a term. Teachers need to mark an 'X' in the relevant area when that particular behaviour is seen. This individual record is useful for initial observations, especially with young children, and when a teacher has a large, busy class which allows the teacher to quickly mark an ability when noticed. If numerous recordings are made, then it should be followed with more assessments such as the CCEA & NCCA general checklist for identifying gifted and talented students. An advantage of using this checklist is observations can be undertaken in the classroom during normal activities. The result of using this procedure, is that teachers will be able to take into consideration each child's learning styles when planning classroom activities.</p>
<p>Gittman and Koster (2000) https://files.eric.ed.gov/fulltext/ED454266.pdf</p>	<p>Rating scale</p>	<p>Various age groups</p>	<p>This characteristic scale is used to identify students' suitability for gifted and talented programs. Along with this teacher checklist,</p>

			responses should be correlated with student's ability test scores, achievement test scores and performance. If a child fits, many of the characteristics, it would be wise to refer the child for assessment.
Heacox 2012 Heacox, D 2012, Differentiating Instruction in the Regular Classroom: How to reach and teach all learners	Checklist	Various age groups	This is a checklist to ascertain whether a student in your classroom is either bright or is gifted. Very easy resource to use.
Hodge, K 2013, CHARACTERISTICS OF GIFTEDNESS: HOW DO WE KNOW? https://www.education.act.gov.au/support-for-our-students/g-and-talented-education	Checklist	Various age groups including early childhood	There are characteristics that researchers have shown to be consistent indicators, possible indicators and indicators which are not related to giftedness. There are also family characteristics that can mask giftedness. This checklist is used to find gifted students and is easy to use.
Hodge and Kemp Hodge, K & Kemp, C 2000, Exploring the nature of giftedness in preschool children. <i>Journal for the education of the gifted</i> , vol. 24, no. 1, pp. 46-73.	Checklist	Various age groups	Looks at behaviours and characteristics of giftedness. This is a collaborative resource between teachers and parents.
Kaya 2013 Kaya, F 2013, 'The role of peer nomination forms in the identification of lower elementary gifted and talented students', <i>Academic journals</i> , vol. 8, no. 24, pp. 2260-2269.	Written exercise	Various age groups	For implementation, see Murphy's appendix information in toolkit.
McAlpine & Reid: Behaviours of giftedness McAlpine, D & Reid, N 1996, Teacher observation scales for identifying children with special needs. ERDC Press, New Zealand Council for Educational Research, Palmerston North, NZ.	Rating scale	Various age groups, from Grade1-Year12	This observational scale can be used in a typical classroom. It is important to bear in mind that it is highly unlikely that any one learner will exhibit all of these traits, but are best used as a checklist of behaviours that could contribute to a gifted profile. Easy checklist to use
Merrick & Targett: Teacher nomination form: Young gifted children. https://education.arts.unsw.edu.au/about-us/gerric/resources/pd-package/	Checklist	Early childhood age group	This resource is very easy to use. If a child displays at least one third of these behaviours or characteristics, then further testing using other identification resources should be used. Ask the parents/guardians to fill out the Parent Nomination Form (Sayler).
Merrick: Primary and Secondary teacher nomination form Merrick, C 2004: Adapted from Gross, M; Bailey, S; Merrick, C & Phillips, R. https://education.arts.unsw.edu.au/about-us/gerric/resources/pd-package/	Checklist	Primary and secondary age groups	This resource is very easy to use. If a child displays more than 5 different behaviours of which more are positive, then another teacher (teachers of extracurricular activities such as, art, music, chess, etc. or another teacher at the school who may also teach this child) should fill out the Teacher Nomination Form.

			<p>If a child displays more than 5 different behaviours of which the majority are negative, further identification resources should be considered. These negative behaviours often indicate underachievement in gifted students. Follow up with speaking to parents/guardians to see if the child has any other teachers in and out of school (who could complete the Teacher Nomination Form), and to fill out Parent Nomination Form (Sayler). Also, record any test results which may be on file.</p> <p>The more behaviours that are highlighted (regardless of being positive or negative), the more evidence you have collected to support that this child is gifted.</p>
<p>Minnesota Council: parent checklist http://mcgt.net/checklist https://www.education.vic.gov.au/school/parents/learning/Pages/giftedindicators.aspx</p>	Checklist	Various age groups	<p>This checklist needs to be completed by the parent with a yes or no response. Most, but not all, of the following questions apply equally well to children of various ages. No one child will exhibit all of these. They are intended to serve as a checklist of the abilities revealed by many gifted children.</p>
<p>Montgomery (Exceptionally Able Children, 1996) http://www.det.wa.edu.au/curriculumsupport/giftedandtalented</p>	Rating scale	Various age groups	<p>This checklist looks at common behavioural characteristics of gifted and talented students. It uses learning and psychosocial behaviours as indicators of giftedness.</p>
<p>Montgomery 1,2,3 1. Montgomery, D 1996, <i>Educating the Able</i>. Cassell & Co., London. 2. Montgomery, D 2000, <i>Able, Gifted and Talented Underachievers</i>. Whurr publishers, London. 3. Hughes, C & McGee, C 2011, <i>Identifying and Supporting Young Gifted Learners</i>. National Association for the Education of Young Children, July 2011, pp. 100-105.</p>	Checklists and questionnaire	Various age groups	<p>This resource involves three different resources. The 1st resource is a checklist which identifies characteristics of underachievement; the 2nd resource is a checklist which identifies more able underachievers; and the 3rd resource is a questionnaire becoming aware of advanced abilities. If 5 or more behaviours are ticked in each checklist, then proceed to the questionnaire. Questionnaire needs to be completed by parents/guardians.</p>
<p>Morrissey 2012 Young Gifted Children Morrissey, A-M 2012, <i>Young gifted children: A practical guide to understanding and supporting their needs</i>. Teaching Solutions, Albert Park, Australia</p>	Checklist	Early childhood 3-8 years of age	<p>Observations and documenting a child's development and learning will support evidence towards nominating a child for formal identification of giftedness. This form should be used over a period of time, e.g., month, term. This checklist is simple to use.</p>

<p>Murphy: Peer nomination form 2015 (adapted from Murphy 2001)</p>	<p>Written exercise</p>	<p>Primary and secondary age groups</p>	<p>Discuss with the class what is being asked of them. This form allows students to acknowledge their classmates' abilities. In conjunction with checklists/rating scales, this resource can be an invaluable tool for identification. The scoring procedure: a student would receive one mark each time his or her name was chosen for a question by his or her classmates. All marks for each student are summed and then divided by the class size in order to produce the mean peer nomination score, which allows evaluation of the scores across classrooms irrespective of class size. The possible score of a student would range from zero to the number of classmates. The higher the score a student had, the more intelligent he or she was judged to be by his or her classmates.</p>
<p>Murphy & Breen (2015): Comprehensive Checklist In Margrain, V, Murphy, C & Dean, J 2015, Giftedness in the Early Years: Informing, learning and teaching. NZCER Press, Wellington, New Zealand; and Sword, L 2007, Underachievement in Gifted Students. http://www.giftedservices.com.au/StartingPoints/index.html</p>	<p>Checklist</p>	<p>Various age groups including early childhood</p>	<p>This checklist is used to determine giftedness with one section looking at early childhood characteristics of giftedness, the second section involves behaviours and characteristics of giftedness and the third section involves characteristics and behaviours of underachieving gifted students. Easy resource to use.</p>
<p>NSW 1 policy on giftedness https://education.nsw.gov.au/policy-library/associated-documents/polimp.pdf</p>	<p>Checklist</p>	<p>Various age groups</p>	<p>This checklist has been adapted from NSW's policy guidelines on gifted education. The negative characteristics of gifted students are often exhibited by gifted underachievers and students with a learning disability. See note below, to get pdf on how to evaluate the results</p>
<p>NSW 2 Teacher nomination form</p>	<p>Checklist</p>	<p>Various age groups</p>	<p>It is a quick resource to use. Comparing to age peers, teachers can see if any student stands out as possibly being gifted. See note below, to get pdf on how to evaluate the results</p>
<p>NSW 3 Parent nomination form</p>	<p>Checklist and Questionnaire</p>	<p>Various age groups</p>	<p>Teachers can provide parents/guardians with this form to gain more information on a particular student. This resource must be used in conjunction with the Teacher Nomination Form. This form will provide teachers with vital information on pre-school behaviours and characteristics of giftedness. See note below, to get pdf on how to evaluate the results</p>
<p>Note# To evaluate the NSW 1, 2 & 3 documents, go to the website: https://education.nsw.gov.au/policy-library/associated-documents/polimp.pdf</p>			

<p>NT policy: gifted underachiever https://education.nt.gov.au/education/policies</p>	Checklist	Various age groups	If the student exhibits ten or more of the listed traits, further testing may be recommended to establish whether he or she is a gifted underachiever. Quick resource to use.
<p>Okoye, Henning & Benson 2019 TeachersFirst: How to spot a gifted child https://www.teachersfirst.com/gifted.cfm</p>	Checklist	Various age groups	Characteristics/behaviours of giftedness are listed and described in this checklist. Positive traits are included along with those behaviours that may frustrate you as a teacher. If a student in your classroom exhibits these characteristics on a consistent basis, there is a good chance he or she is gifted.
<p>Porter Gifted young children Porter, L. 2005, Gifted young children: A guide for teachers and parents. 2nd edn, Allen & Unwin, Sydney</p>	Rating scale	Various age groups including early childhood	This checklist addresses various learning styles including: thinking skills, creative thinking, auditory style, visual-holistic, artistic expression and academic giftedness. This resource can be used for young children. Easy resource to use.
<p>Queensland Government: Department of Education http://www.learningplace.com.au/deliver/content.asp?pid=33289</p>	Checklist	Various age groups	Looks at lots of different characteristics of giftedness. The Queensland Association for Gifted & Talented Children (QAGTC) (2011), believes that as with all special needs students no two students will display the exact same characteristics or traits. As a teacher it is important to compare the child with their age peers. Quick resource to use.
<p>Reis and McCoach Reis, S & McCoach, B 2002, Underachievement in Gifted and Talented students with special needs. Exceptionality, vol. 10, no. 2, pp. 113-125</p>	Checklist	Various age groups	This checklist looks at behavioural traits of twice-exceptional gifted students who underachieve. Gifted and talented students who are underachieving may suffer from undiagnosed learning disabilities. It is important to consider the possibility that a specific learning disability may be responsible for a student's underachievement. This checklist considers these possibilities. Some underachievers may exhibit one or more of the overexcitabilities listed.
<p>Rimm Underachievement <i>Why bright kids get poor grades</i> (2008)</p>	Checklist	Various age groups	This checklist involves determining if you have a student who is at risk of underachievement or is underachieving. It explains the different characteristics of underachievers (section 1), risk factors that may initiate underachievement (section 2) and discover what classroom risks can cause

			underachievement (section 5). The scores are explained after each section.
Sayler 'Things my child has done' Sayler, M 2016, Investigation of Talented Students, University of North Texas, Denton TX.	Rating scale	Various age groups	This rating scale is a gifted and talented resource for parents and looks at characteristics of gifted young children. The examples after each item are there to help you to understand that item. A student may not show all of the examples given and they may exhibit the item characteristic in ways not listed. Indicate how much you think this child is like the item by using the scale to the right of each item.
Self-nomination form Lyons, K 2019, Self-nomination form for giftedness, adapted from http://advancedacademicprograms.dadeschools.net/documents/forms/FM5031_Self_Nom_Gft_Form_Eng.pdf	Checklist	Various age groups	This resource can be an invaluable tool when used in conjunction with other assessments for identification purposes (see scoring and evaluating procedure p. 203).
Silverman 1 Child Development Centre http://www.gifteddevelopment.com	Checklist	Early childhood (aged 4-8 years)	Early childhood checklist. Used for early signs of giftedness in young children. Need information from parents to complete checklist.
Silverman 2 http://www.gifteddevelopment.com	Rating scale	Early childhood and various age groups	Looks at characteristics of gifted children and compares children the same age in the classroom.
Silverman 3 Twice- exceptional Linda Silverman, Barbara Gilman & Elizabeth Maxwell 2016, <i>Teacher Checklist for Recognizing Twice Exceptional Children</i>	Checklist	Various age groups	The purpose of this checklist is to assist teachers in recognising some common characteristics of gifted children with learning disabilities. If a child fits many of the characteristics, it would be wise to refer the child for assessment.
Smutny: Parent-Teacher collaboration form Adapted from: Smutny, J 2004, Social/Emotional Development: Underachievement. www.2enewsletter.com/	Questionnaire	Various age groups	This questionnaire will be a collaboration between the teacher and the parent/guardian. Depending on what has been answered, further identification resources should be considered.
Spratt https://files.eric.ed.gov/fulltext/ED378780.pdf	Checklist	Various age groups	Suitable for various ages. Takes an overall look at your grade and identifies if anyone stands out. Very quick resource to use.
TKI ministry of education (recommended to use by Victorian Government)	Key dispositions (examples)	Early childhood	This resource uses behaviours of giftedness in early childhood for identification. NZ policy uses key dispositions as a guide to

https://gifted.tki.org.nz/define-and-identify/the-early-years/	need to be provided).		identifying gifted children. These key dispositions of children will be observed by using learning stories, where children's learning is represented and analysed through a snapshot of their learning experiences. This is an observation scale which needs to have examples provided.
VIC government https://www.education.vic.gov.au/school/teachers/behaviour/engagement/Pages/default.aspx	Checklist	Various age groups including early childhood	This checklist looks at behavioural indicators and learning attributes. These aspects of a gifted child's learning are frequently qualitatively different from those of more age-typical children and signal they are learning in an advanced way.
WA Department of Education and Training (Fisher 2005 adapted from Whiteman 1980) http://www.det.wa.edu.au/curriculumsupport/giftedandtalented	Checklist	Various age groups	This checklist is used for various ages and identifies common characteristics and behaviours in underachieving gifted students. Underachieving students may display either aggressive or withdrawn behaviour patterns. Gender differences are evident in the tendency towards aggressive behaviour in males and withdrawn behaviour in the few identified female underachievers.

Additional Resources			
CCEA & NCCA Gifted and Talented students: Guidelines for teachers http://ccea.org.uk/sites/default/files/docs/curriculum/guidelines_general_strategies/sen-gifted_guidelines_for_teaching.pdf	Written exercises	Teacher resources	Individual record sheet
	Checklists		Observational chart
			Classroom strategy checklist
			Gifted and Talented audit form
Ruf Levels of giftedness Ruf, D 2009, Ruf estimates of levels of giftedness, www.thinkingahead.com.au	Resource	Early childhood birth to 8 years	Detailed characteristics of young gifted children from birth to 8 years of age.

ACT policy on gifted underachievement (Neihart & Betts 2010)

PROFILES OF THE GIFTED UNDERACHIEVERS		
TYPE 1: The Successful	YES	NO
Feelings/Attitudes		
These students are bright, motivated achievers. However, their motivation may be directed mainly towards teacher acceptance rather than towards the full development of their high abilities.		
Behaviours/Characteristics		
Well behaved/ conformist		
Achieve in schoolwork		
Seek approval from teachers and other adults		
Neat, tidy bookwork		
May be perfectionists		
Seek order and structure		
Like clear instructions		
Do not take risks		
May 'achieve' - but at levels significantly below their true ability (at university or in adult life).		
Needs (at school and at home)		
Self-knowledge		
Independent learning skills		
Assertiveness skills		
Creativity development		
To be challenged		
To see deficiencies		
To take risks		
To develop an incremental view of intelligence (that intelligence can be increased through effort)		
Risk-taking experiences		
Affirmation of their ability to cope with challenges		
Independence		
Freedom to make choices		
TYPE 2: The Creative		
Feelings/Attitudes		
These students are frustrated because the school system does not recognise their high abilities. These students are often overlooked as their impatience can mask their giftedness. They may be bored, angry and resentful and they may 'take it out' on their teachers and other students. this can then further decrease the likelihood of their being identified as gifted.		

Behaviours/Characteristics		
Can be obstinate, tactless and sarcastic		
Question and challenge authority		
Can be rude and arrogant		
Can be unpopular with peers		
Sometimes will buy acceptance as class clown		
Do not 'suffer fools gladly'		
Needs (at school and at home)		
To connect with others		
To learn tact, flexibility, self-awareness and self-control		
Support for creativity		
Contractual systems		
Less pressure to conform		
Interpersonal skills		
Strategies to cope with potential psychological vulnerabilities		
Affirmation of their strengths		
Confidence in their abilities communicated to them		
Appropriate behaviour modelled to them		
Their goals to be respected		
TYPE 3: The Underground		
Feelings/Attitudes		
These students have responded to the 'forced-choice' dilemma: the choice between excelling academically and being accepted by the peer group, and by choosing peer acceptance. Unfortunately, they may then become afraid that they will lose acceptance if they drop their camouflage. They can feel conflicted, guilty and insecure. They can have a diminished sense of self.		
Behaviours/Characteristics		
Conceal ability for peer acceptance		
Strong belonging needs		
May be insecure and anxious		
May feel guilty for denying their gifts		
Needs (at school and at home)		
Freedom to make choices		

Conflicts to be made explicit		
Support for abilities		
Role models who cross cultures		
Self-understanding and acceptance		
An audience to listen to what they have to say (to be heard)		
College and career planning		
Lifelong learning modelled		
Gifted role models provided		
Freedom to make choices		
reassurance		
TYPE 4: The At Risk		
Feelings/Attitudes		
These students may be physically present in the classroom but intellectually and emotionally have become quite divorced from what is going on in it. They are angry with adults and with themselves because the system has not met their needs and they feel rejected. They may express this resentment through withdrawing into themselves and refusing to participate or by acting out and responding defensively.		
Behaviours/Characteristics		
Can be depressed and withdrawn or angry and defensive		
Interests may lie outside curriculum and are not perceived to be valued by teachers or classmates		
Extreme low self-esteem		
Low performance		
Needs (at school and at home)		
Safety and structure		
Professional counselling		
An 'alternative' environment		
An individualised program		
Confrontation and accountability		
Direction and short-term goals		
Counselling for family		
Avoidance of power struggles		
To be held accountable but with minimal punishments		

Confidence conveyed about their ability to overcome obstacles		
To have relationships preserved		
TYPE 5: The Twice-Exceptional		
Feelings/Attitudes		
These students are gifted students who also have a disability (physical, emotional, learning): for example, a gifted student who is also hearing or visually impaired; a gifted student with Asperger's Syndrome or a gifted student who also has a specific learning difficulty such as dyslexia. Often, the focus is on the disability rather than on the whole child.		
Behaviours/Characteristics		
May display disruptive behaviours through frustration		
May be confused about their ability to perform		
Can become very frustrated when teachers ignore their gifts and focus only on their disabilities		
Needs (at school and at home)		
Emphasis on strengths		
Coping strategies		
Skill development		
To develop resilience		
An environment that develops strengths		
To learn to self-advocate		
A focus on strengths while accommodating the disability		
To develop the will to succeed		
To have gifted abilities recognised and affirmed		
Risk-taking opportunities provided		
Self-control nurtured		
TYPE 6: The Autonomous Learner		
Feelings/Attitudes		
These students have learned how to work effectively in the school system. They are academically successful, but may not view academics as one of their highest priorities. They show tolerance and respect for others. They have strong, positive self-concepts and they are able to work cooperatively with teachers to design their personal learning goals. They are willing to fail and learn from it.		

Behaviours/Characteristics		
Use the system to succeed		
Can be confident enough to express their needs and do so in ways that teachers and peers will accept		
Independent		
Self-directed		
Respected and liked by teachers and peers		
Needs (at school and at home)		
More support, not less		
Advocacy for new directions and increasing independence		
Feedback about strengths and possibilities		
Facilitation of continuing growth		
Support for risk-taking		
Ongoing, facilitative relationships		
Opportunities related to passion areas		
Friends of all ages		
No time and space restrictions		
Help to build a support team		
Inclusion in family decision making		

YES TOTAL _____ NO TOTAL _____

The Giftedness in Early childhood scale

(Allan 2002)

Instructions for use.

Only record responses for indicators you have observed.

Complete the scale more than once.

Observe target child several times over a period of one month.

Where uncertainty exists, use the notes section to record behaviours observed, and discuss with other teachers and the child's parents or extended family/community members.

Please tick the appropriate box to indicate degree to which each behaviour is observed.

Student name _____ Teacher _____

1. Rarely/Never 2. Occasionally 3. Frequently 4. Almost Always

I. Cognition and Language	1	2	3	4
Demonstrates high level of concentration and attention span for age in activity or subject that is of interest to self.				
Possesses very good memory, and can quickly and accurately recall a wide range of information, rhymes, stories or songs, heard some time ago.				
Displays advanced verbal skills for age, both in vocabulary use and understanding.				
Learns new material or skill quickly.				
Displays understanding of complex/abstract concepts, e.g., death, time, electricity.				
Understands things well enough to teach others.				
Understands and uses metaphors and analogies.				
Carries out complex tasks.				
Can quickly sense consequences.				
Demonstrates deeper general knowledge than other children (e.g. TV programs, sport, dinosaurs, cultural knowledge, space games).				
Independently pursues a wide range of interests or a single interest in great depth.				
Is able to read a number of words.				
Is able to write a number of words.				
Is able to calculate with numbers.				
Resists interruption to own activity.				
Notes for cognition and language:				

1. Rarely/Never 2. Occasionally 3. Frequently 4. Almost Always				
II. Approach to Learning	1	2	3	4
Has advanced ability as an independent problem-solver, using stored knowledge.				
Applies new learning in different contexts.				
Displays unusual skill in putting together objects, or new or difficult puzzles, without relying on trial and error.				
Is systematic when approaching tasks.				
Displays high level of planning and/or prediction.				
Enjoys intelligent risk-taking.				
Sees alternative ways of doing things.				
Is intensely curious about a variety of things.				
Asks probing what, how and why questions.				
Learns quickly from mistakes that are made by self or observed in others, behaviour; and avoids making the same mistake.				
Loses interest in tasks unrelated to own interests.				
Displays boredom with imposed repetition or routine, through low quality work or non-cooperation.				
Displays independence; or stubbornness.				
Expresses doubt in own ability to produce perfect results; resulting in reluctance to attempt new tasks.				
Is sceptical; critical; evaluative; or quick to spot inconsistencies.				
Notes for approach to learning:				
III. Creativity	1	2	3	4
Sees relationships, discrepancies, or humorous situations not understood by other children.				
Is unusually or highly inventive in fantasy, verbal, artistic, constructive, or musical expression.				
Has a long attention span for creative activities.				
Draws a variety of things, not just people.				
Displays highly developed appreciation of art or musical activities.				
Easily repeats and discriminates rhythm patterns.				
Plays with/manipulates rhymes, and/or language, pronunciation, ideas, etc.				
Demonstrates planning in composing, construction of art work.				
Spontaneously makes up stories, especially elaborating new experiences.				
Gives unique, clever or humorous responses.				
Generates many different ideas.				
Is very resourceful in avoiding unpleasant tasks or situations.				
Has high interest or ability in cultural activities.				
Is unusually attentive to features/changes in the environment.				

Notes for creativity:

1. Rarely/Never 2. Occasionally 3. Frequently 4. Almost Always

IV. Social Competence

	1	2	3	4
Associates with older children, gifted peers or adults.				
Shows leadership abilities either overtly; by example; or unobtrusively in the background.				
Is sought out by other children for ideas, decisions, information, or companionship.				
Accepts responsibilities beyond those usual for age.				
Displays sensitivity/compassion for others.				
Has strong influence over others in desirable or undesirable ways amongst peers.				
Modifies language or voice pitch for less mature children.				
Exhibits a surprising intensity of response, e.g. to perceived injustice.				
Willingly shares own skills or knowledge, solicited or unsolicited				
Shows skills in interpreting nonverbal language and social cues.				
Displays conflict and frustration with other children, leading to social isolation.				
Is critical of self and/or others; displaying high expectations of performance.				
Cunningly manipulates people or situations to own advantage; or displays highly disruptive behaviour.				
Is very talkative, and talks above heads of age peers.				

Notes for social competence:

How many ticks for 'almost always' and 'frequently' are in each section:

I. _____ II. _____ III. _____ IV. _____

Checklist for Identifying Gifted and Talented Students (CCEA & NCCA)

Student name: _____ Teacher: _____

Characteristic: <i>Gifted and Talented students may</i>	Yes/No
possess extensive general knowledge, often know more than the teacher and find the usual reference books superficial.	
show good insight into cause-effect relationships.	
easily grasp underlying principles and need the minimum of explanation.	
quickly make generalisations and extract the relevant points from complex material.	
have mental speeds faster than physical capabilities and so be often reluctant to write at length.	
prefer to talk rather than write and often talk at speed with fluency and expression.	
be reluctant to practise skills already mastered, finding such practice futile.	
have exceptional curiosity and constantly want to know why.	
be inventive and original when interested.	
ask searching questions, which tend to be unlike other students' questions	
often see the unusual rather than the conventional relationships	
be able to pose problems and solve ingeniously	
display intellectual playfulness, fantasise and imagine and be quick to see connections and to manipulate ideas	
read rapidly and retain what is read and can recall detail	
listen only to part of the explanation and appear to lack concentration or even interest but always know what is going on	
jump stages in learning and be often frustrated by having to fill in the stages missed	
leap from concrete examples to abstract rules and general principles	
have quick absorption and recall of information, seem to need no revision and be impatient with repetition	
be keen and alert observers, note detail and be quick to see similarities and differences	
see greater significance in a story or film and continue the story	
see problems quickly and take the initiative	

Characteristic: <i>Gifted and Talented students may</i>	Yes/No
have advanced understanding and use of language but sometimes be hesitant as they search for and use the correct word	
become absorbed for long periods when interested and may be impatient with interference or abrupt change	
persists in completing activities when motivated	
often set very high personal standards – are perfectionists	
more than usually interested in ‘adult’ problems such as important issues in current affairs (local and world), evolution, justice, the universe etc.	
be concerned to adapt and improve institutions, objects, systems, (e.g., can be particularly critical of school)	
be philosophical about everyday problems and common-sense issues	
be perceptive in discussion about people’s motives, needs and frailties	
daydream and seem lost in another world	
show sensitivity and react strongly to things causing distress or injustice	
often take a leadership role	
empathise with others and be very understanding and sympathetic	
be confident and competent	
express their own feelings	
attribute ideas to others	
be self-effacing	
reflect on their own performance	
give inventive responses to open-ended questions	
have a keen sense of humour in the unusual and be quick to appreciate nuances and hidden meanings	
appreciate verbal puns, cartoons, jokes and often enjoy bizarre humour, satire and irony	
criticise constructively, even if sometimes argumentatively	
be unwilling to accept authoritarian pronouncements without critical examination and want to debate and find reasons to justify the why and the wherefore	

YES TOTAL _____ **NO TOTAL** _____

Gifted screening checklist

(Clark)

Teacher: _____

Student: _____

Please select 'yes' or 'no' to indicate if any characteristic is typical for the child.

Characteristic	YES	NO
Extraordinary quantity of information		
Unusual retentiveness		
High level of language development		
High level of verbal ability		
Advanced comprehension		
Unusual varied interests and curiosity		
Unusual capacity for processing information		
Accelerated pace of thought processes		
Flexible thought processes		
Comprehensive synthesis		
Heightened capacity for seeing unusual and diverse relationships, integration of ideas and disciplines		
Ability to generate original ideas and disciplines		
Early differential patterns for thought processing		
Thinking in alternatives		
Using abstract terms		
Sensing consequences		
Making generalisations		
Visual thinking		
Use of metaphors and analogies		
Early ability to use and form conceptual frameworks		
An evaluative approach toward self and others		
Unusual intensity; persistent goal-directed behaviour		
Early ability to delay closure		

TOTAL YES _____ **TOTAL NO** _____

Note. Checklist proposed by B Clark 2008, *Growing up gifted*. Pearson education, New Jersey.

Nebraska Starry Night: Individual Record Sheet

Record X and date in the area for each behaviour event recorded.
Nebraska Starry Night: Individual record sheet (Eyre 1997, p32-33)

<p>Recognised by others Sought out, seen as a resource, shows how, helps, attracts others (as magnet), responsive, admired</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	
<p>Shares/Volunteers Extends (to others), illustrates, connects/describes, explains/ instructs, helps/shows how, advises, encourages</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	
<p>Explores Experiments, pretends, builds, designs, constructs, organises/sorts, solves, plays</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	
<p>Observant Notifies, sees relation, connects/ associates/predicts, examines, distinguishes, determines (sees) difference (change)</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	
<p>Humour Jokes, clever, original, notices/creates, spontaneous, reacts/responds</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	
<p>Sensitive Expressive/quick to tear, insightful, thoughtful, helpful, sympathetic/empathetic, anxious, self-aware, concern/ care</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	
<p>Sees big picture Recognises pattern, comprehends, associates, finds metaphor, predicts, analyses/theorises</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	
<p>Act hunger Expressive, role play, show, exhibit, gesture, spontaneous, loud, announce, enthusiastic</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	
<p>Fantasy/Imagination Invents, imitates, imagines, pretends, original construction, novel design</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	
<p>Imagery (Uses) metaphors, detects symbolism, illustrates, artistic, clever, novel, original, expressive</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	
<p>Independent Works alone, self-directed, initiates, absorbed, diligent, concentrates, plans/pursues/ solves</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	
<p>Curious/Questions Notifies, examines, observes, seeks/asks, requests, has insight/ connects</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	
<p>Focus Absorbed, diligent, concentrates, organised/sorts, insight, completes details</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	
<p>Comet Unexpected, extraordinary, extra-special, difficult to classify</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	
<p>Knows Comprehends/reasons, connects/associates, finds/ applies/uses, answers/ announces, explains, calculates/solves</p>		<p>Engages Initiates, directs/leads, attracts, encourages, shows how, offers or extends instruction/help</p>		<p>Moving & doing Demonstrates, constructs, looks/reacts, shows how or what, exhibits, non-verbal expressive</p>		<p>Vocabulary Fluent, comprehends, express/ expressive, novel, associates/ connects, complex syntax, uses BIG words</p>	

Rating Scale for Gifted and Talented Students

(Gittman and Koster)

Student name: _____ Teacher _____

Rating of qualities teachers would consider characteristic of students who could be recommended for placement in gifted and talented programs.

Characteristics	Strongly agrees	Agrees	Disagrees	Strongly disagrees	Not Observed
Thinks critically, judges, evaluates, compares, contrasts, predicts					
Is able to maintain a high level of learning in the regular classroom despite being pulled-out for a special program					
Is able to be successful in an accelerated curriculum					
Desire to achieve					
Asks insightful questions					
Prefers to be challenged					
Is persistent, goal-oriented, and completes tasks					
Good concentration (sustained over period of time)					
Is an independent thinker					
Is inquisitive					
Willing to take risks					
Learns quickly					
Is a self-directed learner					
Gives original ideas and examples					
Thinks logically					
Comprehends abstract ideas					
Knows how to seek information					
Is imaginative					
Has effective organisational skills					
Is keenly observant					
Is an avid reader					
Is inventive with materials or ideas					
Solves problems by ingenious methods					
Uses good judgment					
Is flexible and open-minded					
Has a rich, fluent, vocabulary					
Has a good memory					
Tolerant of ambiguity					
Displays intense interest in hobbies, special topics, or projects					
Reads non-fiction					
Shows leadership, takes charge					
Is self-critical					
Uses elaborate expression					
Strives for perfection					
Has a keen sense of humour					
Tolerant of ambiguity					
Is able to translate verbal information into visual representations					
Expresses strong feelings and opinions					
Self-confident					

TOTAL AGREE _____ TOTAL DISAGREE _____

Differences between a bright student and a gifted learner (Heacox)

The table below show the characteristics/behaviours which are indicative of the differences between a bright student and a gifted learner.

Student _____ Grade/Year level _____

Teacher _____

BRIGHT STUDENT	YES	NO	GIFTED LEARNER	YES	NO
Knows the answers			Asks the questions		
Is interested			Is highly curious		
Is attentive			Is mentally/physically involved		
Has good ideas			Has wild and silly ideas		
Works hard			Plays around, tests well		
Answers the questions			Discusses with details		
In the top groups			Goes beyond top group		
Listens with interest			Has strong feelings/opinions		
Learns with ease			Already knows		
6 to 8 repetitions for mastery			1 to 2 repetitions for mastery		
Understands ideas			Constructs abstractions		
Enjoys peers			Prefers adults		
Grasps the meaning			Draws inferences		
Completes assignments			Initiates projects		
Is receptive to instruction			Is intense		
Copies accurately			Creates a new design		
Enjoys school			Enjoys learning		
Absorbs information			Manipulates information		
Technician			Inventor		
Good at memorisations			Good at guessing		
Enjoys straightforward instruction			Thrives on complexity		
Is alert			Is keenly observant		
Is pleased with own learning			Is highly self-critical		

Please note: If there are more 'YES' ticks in the gifted learner column, than in the bright student column, further assessment is recommended.

CHARACTERISTICS OF GIFTEDNESS: HOW DO WE KNOW?

(Hodge 2013)

Student Name _____

Teacher Name _____

Sometimes (S/T)

CONSISTENT INDICATORS OF GIFTEDNESS	YES	S/T	NO
“Good” thinking – e.g., reasoning, conceptual understanding, abstract thinking, problem solving, generalising			
Ease or speed of learning – may learn from being told/shown just once; quick to see errors as learning opportunities			
Advanced verbal abilities – early/sophisticated expressive language development, sophisticated vocabulary and/or complex sentences (although some gifted children actually begin to talk later than usual, then progress swiftly); advanced receptive language that can be observed (advanced ability to comprehend concepts, vocabulary, directions and questions)			
Exceptional memory – e.g., can retain information after brief exposure; able to recall early life events in complete detail			
Exceptional concentration or attention span – a long attention span when interested; children in the upper levels of giftedness may be able to concentrate on more than one thing at a time			
Perseverance or motivation – e.g., greater goal-directedness and persistence to completion, an appetite for learning			
Wide ranging interests and knowledge – interests may be intense and outside what is expected for young children			
Preference for older companions – prefer older children/adults to age peers, which may reflect advanced language levels, preferences for complexity in play, mature views of friendships			
Keen observation – an eye for detail; notes subtle changes			
Quantitative ability and interests – interest and skill in numbers; greater interest in time, calculators, money			
Exceptional spatial ability – interest and skill in puzzles, maps, diagrams; advanced sense of place and direction			
Early use of symbolic representation – early or sophisticated drawing or writing (depends on fine motor development)			
POSSIBLE INDICATORS OF GIFTEDNESS			
Early development – e.g., begins to sit and walk earlier than other children; begins to speak, read, write or use numbers earlier than other children			
Intense curiosity – shows intense curiosity/deeper knowledge than other children; e.g., insatiable need to know/explore			
Wide range of temperaments – e.g., perfectionism (concern with precision, especially in area of interest), sensitivity (easily hurt, empathetic), intensity, concern with moral or social issues			

Often exhibits imagination and creativity – e.g., finds imaginative ways to get out of doing things they don't want to do			
Has an advanced sense of humour – is humorous in speech, social interactions, art or story telling; makes jokes, puns, or plays on words			
CHILD CHARACTERISTICS THAT CAN MASK GIFTEDNESS			
Problematic behaviour – disruptiveness, stubbornness, lack of cooperation, refusal, questioning of authority			
Introversion – shy and hesitant children can be underestimated; introversion is more common in a gifted population			
Uneven development – it is common for gifted children to be more advanced in one area than another			
Learning difficulty – can result in the giftedness and learning difficulty masking each other so that the child appears average			
Physical or sensory disability – may result in fixation on disability and failure to recognise strengths			
Hiding ability – to gain acceptance, to meet teacher expectations, or to avoid failure or perceived adult demands			
FAMILY CHARACTERISTICS THAT CAN MASK GIFTEDNESS			
Economic disadvantage – potential may be hidden without experiences to reveal it			
Minority language/bilingualism – proficiency in a language may be greater than the language of the educational setting			
Cultural customs – e.g., drawing attention to self; approaches to thinking; views of what giftedness is			
Gifted siblings – if one child has been identified as gifted, siblings may not be recognised if different in skills, interests etc.			

Total YES_____ **Total SOMETIMES**_____ **Total NO**_____

Checklist for characteristics and behaviours of giftedness (Hodge & Kemp)

Student name _____ Teacher _____ Date _____

Behaviour	Teachers' observations	
	Agree	Disagree
Perseverance in area of interest		
Ability in mazes, puzzles, patterns		
Imaginative/creative thinking		
Strong memory		
Early reading/writing		
Extensive vocabulary		
Interest in numbers		
Wide range of interests/knowledge		
Problem solving		
Rapid learning		
Perfectionism		
Sense of humour		
Characteristics	Parents' observations	
	Agree	Disagree
Early/advanced language		
Interest in words/reading		
Strong memory		
Learns easily		
Advanced math skills		
Early symbols/representations		
Imaginative/creative		
Self-motivated		
Problem solving skills		
Perfectionism		
Logical deductions		
Empathy		
Advanced computer skills*		
Curious/observant behaviour		
Makes associations		
Humour		
Deep understanding of events		
Advanced motor skills*		

TOTAL AGREE _____ **TOTAL DISAGREE** _____

Note: Characteristics marked with an asterisk (*) are those considered in the literature not to be indicators of giftedness.

PEER NOMINATION FORM

(Kaya 2013)

1. I am thinking of someone in this room who can help me when I have problems with my school work. Who am I thinking of?

2. I am thinking of someone in this room who would help me get back safely if our class was on a trip and I became separated from the teacher. Who am I thinking of?

3. I am thinking of someone in this room who tells interesting stories.
Who am I thinking of?

4. I am thinking of someone in this room who has the best ideas for games and activities in and outside of school? Who am I thinking of?

5. I am thinking of someone in this room who knows what to do when things go wrong?
Who am I thinking of?

6. I am thinking of someone in this room who likes to try new things?
Who am I thinking of?

7. I am thinking of someone in this room who makes good decisions?
Who am I thinking of?

8. I am thinking of someone in this room who has a good imagination? Who am I thinking of?

9. I am thinking of someone in this room who is interested in many things?
Who am I thinking of?

10. I am thinking of someone in this room who says things in class that I had not thought of before? Who am I thinking of?

11. I am thinking of someone in this room who knows a lot of information?
Who am I thinking of?

12. I am thinking of someone in this room who reads a lot of books? Who am I thinking of?

Note# Information on how to use this type of form is located at the start of the appendix

Primary and Secondary behaviours of giftedness (McAlpine & Reid)

This checklist is best used as a guide for observation of the behaviours that could contribute to a gifted profile.

Student name _____ Teacher _____

CHARACTERISTICS/BEHAVIOURS OF GIFTEDNESS	Most of the time	Some times	Not at all
LEARNING CHARACTERISTICS:			
Displays logical and analytical thinking			
Is quick to see patterns and relationships			
Masters information quickly			
Strives for accurate and valid solutions to problems			
Easily grasps underlying principles			
Likes intellectual challenge			
Jumps stages in learning			
Seeks to redefine problems, pose ideas and formulate hypotheses			
Finds as well as solves problems			
Reasons things out for her/himself			
Formulates and supports ideas with evidence			
Can recall a wide range of knowledge			
Independently seeks to discover the why and how of things			
TOTAL TICKS THIS SECTION			
SELF-DETERMINATION CHARACTERISTICS:			
Is sceptical of authoritarian pronouncements			
Questions arbitrary decisions			
Pushes teachers and adults for explanations			
Displays a precocious interest in 'adult' problems			
Is reluctant to practise skills already mastered			
Is easily bored with routine tasks			
Expresses ideas, preferences and opinions forthrightly			
Relates well to older children and adults, and often prefers their company			
Asks searching questions			
TOTAL TICKS THIS SECTION			
CREATIVE THINKING CHARACTERISTICS:			
Produces original ideas			
Displays intellectual playfulness, imagination and fantasy			
Creates original texts or invents things			
Has a keen sense of humour and sees humour in the unusual			
Generates unusual insights			
Enjoys speculation and thinking about the future			
Demonstrates awareness of aesthetic qualities			
Is not afraid to be different			
Generates a large number of ideas			
Is prepared to experiment with novel ideas and risk being wrong			
Seeks unusual rather than conventional relationships			
TOTAL TICKS THIS SECTION			
SOCIAL LEADERSHIP CHARACTERISTICS			

Takes the initiative in social situations			
Is popular with peers			
Communicates well with others			
Actively seeks leadership in social situations			
Shows ability to inspire a group to meet goals			
Persuades a group to adopt ideas or methods			
Is self-confident			
Is adaptable and flexible in new situations			
Actively seeks leadership in sporting activities			
Is socially mature			
Is willing to take responsibility			
Synthesises ideas from group members to formulate a plan of action			
TOTAL TICKS THIS SECTION			
MOTIVATIONAL CHARACTERISTICS:			
Strives for high standards of personal achievement			
Is self-directed			
Is highly self-motivated and sets personal goals			
Is persistent in seeing tasks to completion			
Becomes committed to and absorbed in tasks			
Tends to be self-critical and evaluative			
Is reliable			
Prefers to work independently			
TOTAL TICKS THIS SECTION			
GIFTED STUDENTS OFTEN:			
feel different and alienated			
get teased about being smart			
worry about world problems and feel helpless to do anything about them			
say school is too easy and too boring			
feel that parents, teachers and friends expect too much all the time			
feel that friends don't really understand			
feel overwhelmed by what they could do in life			
don't understand what being gifted is actually all about. It's kept a secret.			
TOTAL TICKS THIS SECTION			
TOTAL NUMBER OF TICKS FROM ALL SECTIONS			
	Most of the time	Some times	Not at all

Primary and Secondary Teacher Nomination Form (Merrick 2004)

You should observe the child over a period of time, during which different experiences are offered and specific behaviours can be observed. Structured longer-term observation is more valid.

Record the name of your student. Use a highlighter to show each behaviour you observe in the classroom or playground.

Name of Student: _____ **Age:** _____

Teacher: _____ **Date:** _____

CHARACTERISTIC	POSITIVE BEHAVIOUR	NEGATIVE BEHAVIOUR
Highly curious	Asks lots of questions. Inquisitive. Remembers details.	Asks inappropriate questions. Poor group participant. Easily diverted from task.
Abstract thinker	Makes generalisations. Tests out ideas.	Questions others. Questions authority.
Flexible thinker	Employs variety of employs variety of strategies to work something out.	Manipulates people and situations by using a variety of strategies.
Clever use of humour	Enjoys 'adult' humour. Gets teachers' jokes!	Uses humour at the expense of others.
Superior vocabulary	Heightened involvement in discussions. Enjoys adult-like discussions.	Maybe bossy or overbearing when working with others.
Advanced reading	Reads widely. Advanced vocabulary and comprehension.	Reads constantly. Neglects peer interaction and work-prefers to read.
Retention of Retention of knowledge; fast learner	Moves beyond core content and skills quickly. Detailed recall of facts.	Rushes work, then disrupts others. Monopolises class discussion.
Long attention span	Concentrates and focuses on an area of interest for a long period of time.	Easily distracted unless the task is an area of passion or interest.
Independent	Self-directed. Focused on task in research or study.	Reduced involvement in discussion or group work. Uncooperative in a group.
High level of responsibility and commitment	Sets attainable goals. Learns to accept own limitations. Tolerant of peers in a group.	Self-critical. Perfectionist when completing tasks. Sets unrealistic expectations for other group members.
Strong feelings and opinions	Listens to others. Shows concern and interest. Considers others' points of view. Aware of others' feelings.	Speaks out and lacks tact. Over-reacts to others' comments and reactions. Confrontational.
Strong sense of justice	Empathises with those less fortunate.	Argues the rules in games e.g. Handball.

Teacher Nomination Form: Young gifted children (Merrick & Targett)

You should observe the child over a period of time, during which different experiences are offered and specific behaviours can be observed. Structured longer-term observation is more valid.

Record the name of your student. Use a **highlighter** to show each behaviour you observe in the classroom or playground.

Name of Student: _____ Age: _____

Teacher: _____ Date: _____

CHARACTERISTICS	BEHAVIOURS
Unusual alertness	Intense concentration and interest in interactions and objects. long attention span.
Advanced play behaviour	Interest in games with rules developed at an earlier age than usual. Able to play games which require strategy earlier than age-peers.
Exceptional memory	Ability to recall information in great detail. Often tells stories to the teacher with an immense amount of detail.
Early reading	Ability to read on entry to school.
Rapid pace of learning	Appears to acquire knowledge effortlessly. Ability to generalise the knowledge to new situations in unexpected ways.
Asks lots of questions	Asks probing and reflective questions.
Early development of classifying and investigating skills	Organises things by classifying into groups. Investigates how things work and wonders 'what will happen if ...'
Exceptional mathematical ability	Capacity to grasp abstract mathematical concepts at unusually early age.
Imagination	Has an imaginary friend or animal? Creative and inventive storyteller.
Early speech	Love of rich vocabulary; larger than expected vocabulary compared with age peers. Capacity to create complex sentences.

Early social interactions	Early awareness of the individuality of others. Intense concern for other children who are hurt.
Feelings of frustration	Frustrated if motor coordination lags behind intellectual development, such as pencil grip. May be resistant to writing or drawing.
Heightened sensitivity	Early capacity to empathise with feelings of others.
Social and emotional maturity	Emotionally more like older children and may seek them out as friends. May be isolated from same-age peers because of his or her more mature interests and perceptions.
Early awareness of difference from others	Norm-references to other children from an early age. May deliberately begin making mistakes to be like other children.

Scoring the Checklist

Have you highlighted more than 5 different behaviour boxes? YES / NO

How many characteristics (in the first column) are being displayed? _____

Conclusions:

Checklist: Is your child gifted? (Mark with a YES or NO) (Minnesota Council)

Name _____ Teacher _____

Did the child walk and talk earlier than most other children the same age and gender? _____

Did he/she show a comparatively early interest in words? _____

Does she/he have an exceptionally large vocabulary for their age? _____

Did he/she show an early interest in clocks, calendars, jigsaw puzzles? _____

Did she/he show an early interest in numbers? _____

Did he/she show an early interest in reading? _____

Does she/he express curiosity about many things? _____

Does he/she have more stamina and strength than other children of the same age and gender? _____

Does she/he tend to associate with older children? _____

Does he/she act as a leader among children the same age? _____

Does she/he have a good memory? _____

Does he/she show unusual reasoning power? _____

Does she/he have an unusual capacity for planning and organizing? _____

Does he/she relate information gained in the past to new knowledge? _____

Does she/he show more interest in creative effort and new activities than in routine and repetitive tasks? _____

Does he/she try to excel in almost everything? _____

Does she/he concentrate on a single activity for a prolonged period of time without getting bored?

Does he/she usually have a number of interests that keep them busy? _____

Does she/he persist in his efforts in the face of unexpected difficulties? _____

Does he/she figure out solutions to problems and show uncommon "common sense"? _____

Does she/he have a sense of humor that is advanced for their age? _____

Does he/she show sensitivity to the feelings of others? _____

Does she/he show a comparatively early interest in questions of right and wrong, religion, God, and/or justice? _____

Does he/she make collections that are more advanced or unusual than those of others in the same age group? _____

Does she/he show an intense interest in some artistic activity, such as drawing, singing, dancing, writing, or playing a musical instrument? _____

Does he/she make up stories that are vivid and dramatic, or relate her experiences with a great deal of exact detail? _____

Does she/he like puzzles and various kinds of "problem" games? _____

Does he/she have exceptional abilities in mathematics? _____

Does she/he show an unusual interest in science or mathematics? _____

Does he/she show awareness of things that are new or novel? _____

TOTAL YES _____ **TOTAL NO** _____

COMMON BEHAVIOURAL CHARACTERISTICS OF GIFTED AND TALENTED STUDENTS

STUDENT NAME _____ TEACHER _____ DATE _____

Please tick the category you think best describes the student.

(Montgomery 1996)

CATEGORIES: (1) most of the time (2) often (3) occasionally (4) rarely (5) Don't know or unsure

A: LEARNING						
	<i>ITEM</i>	1	2	3	4	5
1	Is a rapid learner, who understands advanced topics easily.					
2	Shows insight and reflects on cause-effect relationships.					
3	Persists in completing tasks.					
4	Sees the problem quickly and takes the initiative.					
5	Learns basic skills quickly and with little practice.					
6	Is reluctant to practice skills already mastered, finding such practice futile.					
7	Follows complex directions easily.					
8	Constructs and handles high levels of abstraction.					
9	Can cope with more than one idea at a time.					
10	Has strong critical thinking skills and is self-critical.					
11	Has surprising perception and deep insight.					
12	Is a keen and alert observer, notes detail and is quick to see similarities and differences.					
13	Displays intellectual and physical restlessness; once encouraged, is seldom a passive learner.					
14	Has a remarkable range of specialised knowledge (e.g., dinosaurs).					
15	Possesses extensive general knowledge (often knows more than the teacher), and finds classroom books superficial.					
16	Explores wide-ranging and special interests, frequently at great depth.					
17	Has quick mastery and recall of information, seems to need no revision and is impatient with repetition.					
18	Learns to read early and retains what is read; can recall in detail.					
19	Has advanced understanding and use of language, but sometimes hesitates as the correct word is searched for and then used.					
20	Sees greater significance in a story or film and continues the story.					
21	Demonstrates a richness of imagery in informal language and brainstorming.					
22	Can ask unusual (even awkward) questions or make unusual contributions to class discussions.					

23	Asks many provocative, searching questions which tend to be unlike those asked by other students of the same age.					
24	Has exceptional curiosity and frequently wants to know the reasons why.					
25	Displays intellectual playfulness; is imaginative and is quick to see connections and manipulate ideas.					
26	Often sees unusual, rather than conventional, relationships.					
27	Can produce original and imaginative work, even if defective in technical accuracy (e.g. poor spelling and/or handwriting).					
28	Wants to debate topics at greater depth.					
29	Mental speed is faster than writing ability, so is often reluctant to write at length. Prefers to talk rather than write and talks at speed with fluency and expression.					

B: PSYCHOSOCIAL						
ITEM		1	2	3	4	5
1	Sets very high personal standards and is a perfectionist.					
2	Is success-oriented and hesitates to try something where failure is a possibility.					
3	Demonstrates a sense of humour and loves incongruities, puns and pranks.					
4	May be behind peers in manual dexterity, which can be a source of frustration.					
5	Can have a negative self-concept and suffer from poor social acceptance by age peers.					
6	Daydreams and seems lost in another world.					
7	Listens to only part of the explanation and sometimes appears to lack concentration, but always knows what is going on. When questioned usually knows the answer.					
8	Often prefers company of older students and adults.					
9	When interested, becomes absorbed for long periods and may be impatient with interference or abrupt change.					
10	Can be stubborn in own beliefs.					
11	Shows sensitivity and reacts strongly to things causing distress or injustice.					
12	Empathises with others and often takes a leadership role; very understanding and sympathetic.					
13	Shows unusual interest in adult problems such as important issues in current affairs (local and world), evolution, justice, the universe, etc.					

TOTAL 1 _____ **TOTAL 2** _____ **TOTAL 3** _____ **TOTAL 4** _____ **TOTAL 5** _____

CHARACTERISTICS IDENTIFIED IN UNDERACHIEVERS

1

(Montgomery 1,2,3)

Student _____

Teacher _____

Number of ticks _____

(Teachers: Place a tick next to the characteristic the student exhibits)

Inconsistent pattern of achievement in schoolwork subjects

Inconsistent pattern of achievements within a subject area

Discrepancy between ability and achievements, with ability much higher

Lack of concentration

Daydreaming

Clowning and other work avoidance strategies

Poor study skills

Poor study habits

Non-completion or avoidance of assignments

Refusal to write anything down

Over activity and restlessness

Overassertive and aggressive or over submissive and timid social behaviour

Inability to form and maintain social relationships with peers

Inability to deal with failures

Avoidance of success

Lack of insight about self and others

Poor literacy skills

Endless talking, avoiding doing

Membership of a 'minority' group (not Caucasian, male, middleclass).

(NOTE: If there are 5 or more ticks, then move on to sheet 2)

Identification of more able underachievers

2

(Montgomery 1,2,3)

Student _____ Teacher _____

Number of ticks _____

Large gap between oral and written work

Poor literacy skills

Failure to complete schoolwork and homework

Poor execution of work

Refuses to do work

Dissatisfaction with own achievements

Avoidance of trying new activities

Perfectionism and extreme self-criticism

Sets unrealistic goals and aspirations

Does not function well in groups or subverts group work

Lacks concentration

Poor attitudes towards school

May have difficulties with peers

Low self-image

Performs satisfactorily in all areas at a level with peers

(NOTE: If there are 5 or more ticks, then move on to sheet 3)

Becoming aware of advanced abilities

3

(Montgomery 1,2,3)

Teachers needs to liaise with the students' parent for some of the responses.

Student's Name: _____ Male/Female (Circle)

Birth Date: _____ Today's Date: _____

NOTE: Please place responses on the back of this sheet

1. How old is the student? Is the student often mistaken for being older?
2. Have you noticed the student having strong interests in particular objects, topics, or actions? If so, describe them.
3. At what age did the student first start saying words?
4. Was the student particularly alert as an infant?
5. Did the student have colic or was the student really fussy and hard to soothe?
6. At what age did the student start walking?
7. Did/does the student have an imaginary playmate?
8. Has the student learned to read? If so, at what age?
9. Is the student concerned about "grown up" issues, such as death or time?
10. Does the student seek out challenging activities, such as complicated puzzles, word plays, or games with multiple steps?
11. Does the student prefer to be with older children or adults?
12. Is the student overly emotional or unusually sensitive to other people's comments?
13. Does the student often create games or rules of his or her own?
14. Is the student highly curious?
15. Is the student aware of, and concerned about, larger community and world problems?
16. Is the student extraordinarily creative? In what area(s)?
17. Does the student ask questions beyond "Why," such as "What if or "How does"?
18. Can the student focus for long periods of time on tasks of interest (not including television or video games)?
19. Is the student often aware of small details that others do not observe?
20. Can the student conduct an involved conversation with adults?
21. Are there any other issues you are aware of?

Young Gifted Children

(Morrissey 2012)

Student name _____ Teacher _____

When you observe a particular characteristic, place a tick in the YES column, or in the NO column if you haven't observed or documented that characteristic.

Characteristics of young gifted children	YES	NO
A Young Gifted child may....		
be an early reader		
have advanced language skills such as early comprehension or a wide vocabulary		
be able to count to high numbers		
be able to recognise numerals		
be a rapid learner		
have a strong memory		
be able to concentrate for long periods (when interested)		
have the ability to think at an abstract level		
have the ability to think logically		
have curiosity and intellectual motivation		
have intense and wide-ranging interests		
have imagination and creativity		
have advanced play skills and interests		
be attracted to intellectual challenges and novelties		
have an advanced sense of humour		
seek out adults to provide stimulation		
Challenges which can be indicative of young gifted children		
Low threshold for boredom (because they learn quickly)		
Perfectionism (need to complete, and do things perfectly)		
Intensity and Sensitivity (intense feelings and emotions)		
Feeling different (aware of differences to their peers)		

TOTAL YES _____ **TOTAL NO** _____

PEER NOMINATION FORM

(Murphy 2015)

Who would be the best organiser if the teacher was away?

Who has the most unusual ideas?

Who is best at making things?

Who is a good leader in the group?

Who is the funniest person in the group?

Who is the best at doing difficult things?

Who is the first person to suggest new games to play?

Who usually finishes their class work first?

Who knows a lot of things?

If you needed help, who would you ask?

Note# Information on how to use this type of form is located at the start of the appendix

Characteristics and Behaviours of Gifted students (Murphy & Breen)

Discuss with colleagues and family members which characteristics you have seen. Note that gifted children do not display all characteristics, and differences can occur in different settings.

Student name _____ Age _____

Teacher _____

Characteristics of Giftedness in the Early Years	AGREE	DISAGREE
Achieves milestones much earlier		
Needs little sleep		
Began to talk very early, or was very late in talking but then learned fast.		
Has a large vocabulary; uses unusual or "big" words		
Talks very fluently, uses language easily and correctly		
Generally reached physical milestones earlier than most		
Demands attention constantly, is persistent		
Is intensely curious, is always asking "why?"; really wants to know the answer.		
Is very observant of detail		
Has an excellent memory		
Is very independent; insists of doing things for him/herself		
Loves being read to; follows story closely		
Is beginning to read/is reading/has asked to be taught to read		
Is quickly bored with simple or repetitive games and toys		
Shows impatience with tasks that seem meaningless		
Can concentrate for long periods of time when interested		
Creates make-believe playmates, invents games, makes up lots of stories (often complicated).		
Can not only count, but is also beginning to grasp maths concepts		
Arranges toys and other items, putting the same kinds of things together		
Has a highly developed, quite sophisticated sense of humour		
Learns easily – only needs to be told things once or twice		
Is very sensitive, distressed by hurts experienced by other people or creatures		
Is generally the leader in any group of children		
Seems to prefer the company of older children or adults		
Doesn't seem to fit in with other children		
Can be impatient with others who don't think as fast or do things as well as she/he does		
Often seems frustrated when ideas outreach ability to perform		
TOTAL NUMBER OF TICKS		

A GIFTED CHILD OFTEN:	AGREE	DISAGREE
Has a heightened sensitivity		
Has a good sense of humour		
Has a high degree of creativity		
Has a high degree of energy		
Has a long attention span		
Has a preference for older friends or adults		
Has a sense of justice and moral sensitivity		

Has a variety of interests		
Has a vivid imagination		
Has above average ability with numbers		
Has above average language development		
Has an advanced vocabulary		
Has an excellent memory		
Has apparent maturity in judgement		
Has keen powers of observation		
Has good problem solving and reasoning abilities		
Has leadership qualities		
Has non-conformist behaviour		
Has unusual curiosity		
Has unusual emotional depth and intensity		
Is a rapid learner		
Is able to master more complex jigsaw puzzles		
Is an early and avid reader		
Is persistent		
Is very alert		
Is very curious		
Is very observant		
Shows perfectionism traits		
TOTAL NUMBER OF TICKS		

Characteristics of underachieving gifted students	AGREE	DISAGREE
Lack of self-confidence		
Fear of failure		
Fear of success		
Have an unusual sense of humour		
Academic skill deficits		
Inability to persevere		
Lack of integration towards goals		
Poor self-concept		
Lack of organisational skills		
Poor listening skills		
Excessive need for attention		
Avoidance of responsibility		
Thoughts of worthlessness		
Avoidance of competition		
Disruptive classroom behaviour		
General lack of motivation		
Feel different and out-of-sync		
Negative thought patterns e.g., believe themselves unintelligent despite test results and/or feel unable to succeed despite their high intelligence.		
TOTAL NUMBER OF TICKS		

TOTAL AGREE ALL SECTIONS _____ **TOTAL DISAGREE ALL SECTIONS** _____

Characteristics of gifted and talented students (NSW Policy document 1)

Distinguishing features of the gifted	YES	NO
Intellectual traits		
Exceptional reasoning ability		
Intellectual curiosity		
Rapid learning rate		
Facility for abstraction		
Complex thought processes		
Vivid imagination		
Early moral concern		
Passion for learning		
Powers of concentration		
Analytical thinking		
Divergent thinking/creativity		
Keen sense of justice		
Capacity for reflection		
Personality traits		
Insightful		
Need to understand		
Need for mental stimulation		
Perfectionism		
Need for precision/logic		
Excellent sense of humour		
Sensitivity/empathy		
Intensity		
Perseverance		
Acute self-awareness		
Nonconformity		
Questioning rules/authority		
Tendency to introversion		
Negative characteristics		
Stubbornness		
Non-participation in class activities		
Uncooperativeness		
Cynicism		
Sloppiness and disorganisation		
A tendency to question authority		
Emotional frustration		
Absentmindedness		
Low interest in detail		
Characteristics of a gifted underachiever		
High IQ	Not sure	
Poor work habits		
Lack of concentration and effort in undertaking tasks		
Interest in one particular area		
Incomplete work		
Low self-esteem		
Emotional frustration		
Negative attitude		
Perfectionism		
Low self-efficacy (avoids doing tasks; over/underestimates their ability)		

Nomination by student's parent/guardian

(NSW policy document 3)

Name: _____ Year: _____

Person completing the form: _____ Relationship to student: _____

CHARACTERISTICS	Most of the time	Some of the time	Rarely
Recalls facts easily			
Expresses himself/herself fluently			
Is always asking questions			
Has a sense of humour			
Finds unusual uses for things			
Tends to lead/initiate			
Is curious			
Has a long attention span			
Is easily bored			
Is an avid reader			
Thinks logically			
Mixes with older children and adults			
Is impulsive			
Is an independent learner			
Is concerned about world issues			

When did your child first begin to read? Is he/she self-taught. _____

At what age did your child show an understanding of numbers, puzzles and patterns? _____

How many books and magazines would your child voluntarily read in a month? _____

Does your child have any unusual interests? If so, what are they? _____

What types of television programs does your child like to watch? _____

Does your child have an interest in music? If so, what is he or she learning and what level has been attained? _____

In what activities does your child participate outside school hours. _____

What hobbies and interests does your child have? _____

Would you consider that your child has a particular problem or need that may affect his or her learning?

Please add any other information you may feel relevant to your child's education. _____

New Zealand TKI Ministry of Education resource (n.d.)

Teacher Name _____ Student Name _____

KEY DISPOSITION	EXAMPLE
Taking an interest	
Becoming involved in the things around them	
Persisting with challenge	
Expressing a point of view or feeling	
Taking a responsibility for their own learning	

NT Gifted and Talented Education Policy

(NT policy)

Checklist for identifying gifted and talented underachievers

Student _____ Teacher _____

TICK	Behaviour/Characteristic
	Poor class test performance.
	Achieving at or below grade level expectations in one or all of the basic skill areas; reading, language arts, mathematics.
	Daily work frequently incomplete or poorly done.
	Superior comprehension and retention of concepts when interested.
	Vast gap between quality level of oral and written work.
	Exceptionally large repertoire of factual knowledge.
	Vitality of imagination: creative.
	Persistent dissatisfaction with work accomplished, even in art.
	Seems to avoid trying new activities to prevent imperfect performance; evidences perfectionism, self-criticism.
	Shows initiative in pursuing self-selected projects at home.
	Has a wide range of interests and special expertise in investigation and research.
	Evidences low self-esteem in tendencies to withdraw or to be aggressive in the classroom.
	Does not function comfortably or constructively in a group of size.
	Shows acute sensitivity and perceptions related to self, other and life in general.
	Tends to set unrealistic self-expectations: goals too high or too low.
	Dislikes practice work or drill for memorization and mastery.
	Easily distracted; unable to focus attention and concentrate efforts on tasks.
	Has an indifferent or negative attitude towards school.
	Resists teacher efforts to motivate or discipline behaviour in class.
	Has difficulty in peer relationships: maintains few friendships.

TOTAL Number of ticks _____

How to spot a gifted child

(Okoye, Henning & Benson)

Student name _____ Teacher _____

Age _____ Date _____

CHARACTERISTIC/BEHAVIOUR	YES	NO
THE GIFTED STUDENT:		
Asks many questions and is very curious		
Possesses a large amount of information		
Has a good memory		
BUT:		
Easily gets "off task" and "off topic"		
Is impatient when not called on in class		
Dislikes being singled out		
THE GIFTED STUDENT:		
Learns new information quickly		
Retains information easily		
Masters reading skills earlier		
Demonstrates strong abilities in math		
Displays unusual academic achievement		
Finishes classwork quickly		
BUT:		
Is easily bored		
Can become disruptive in class		
Shows strong resistance to repetitive activities and memorisation		
Completes work quickly but sloppily		
Daydreams		
THE GIFTED STUDENT:		
Is interested in many things		
Becomes involved in a variety of activities		
Is motivated to try new things		
Enjoys a challenge		
BUT:		
May resist working on activities apart from areas of interest		
Leaves projects unfinished		
Takes on too much and becomes overwhelmed		

CHARACTERISTIC/BEHAVIOUR	YES	NO
THE GIFTED STUDENT:		
Thinks independently		
Expresses unique and original opinions		
Is self-motivated		
BUT:		
Challenges authority		
Does not handle criticism well		
Does not work well in groups		
THE GIFTED STUDENT:		
Uses higher level thinking skills (analysis, synthesis, evaluation)		
Makes connections other students don't see		
Considers unusual approaches to prob-solving		
BUT:		
Tends to be absent-minded regarding practical details		
Forgets homework assignments		
THE GIFTED STUDENT:		
Has a strong sense of justice		
Likes to debate current issues and real-life problems		
BUT:		
Can be very critical of self and others		
Likes to argue a point		
Is a perfectionist and expects others to be perfect as well		
THE GIFTED STUDENT:		
Has a sophisticated sense of humour		
Understands subtle humour		
Enjoys play on words and satire		
BUT:		
Easily gets carried away with a joke		
Has a tendency to become the 'class clown'		
THE GIFTED STUDENT:		
Demonstrates strong expressive skills		
Is sensitive to feelings of others		
Elaborates on ideas		
Shows skill in drama/art/music/language		
BUT:		
Sometimes perceived as a 'know-it-all' by peers		
Is sometimes 'bossy' to peers in group situations		
TOTAL YES _____ TOTAL NO _____		

SIGNS OF GIFTEDNESS IN YOUNG CHILDREN

(Porter 2005; 2011)

Student _____ Teacher _____

Skills and Abilities	Characteristics	Most of the time	Some times	Not at all
Cognitive (thinking) skills: Children who are intellectually gifted display many of the following features:	Early achievement of developmental milestones (at least one-third sooner)			
	Quick learning			
	Keen observation of the environment			
	Active in eliciting stimulation from the environment			
	Quick and accurate recall			
	Recall of skills and information introduced some time ago			
	Deeper and more extensive knowledge than aged peers			
Academic giftedness: Children who are intellectually and academically gifted might:	Early understanding of abstract concepts (e.g., death or time)			
	Read, write or use numbers in advanced ways			
	Show advanced preferences for books and films (unless too sensitive or older themes)			
Learning style: Many gifted children not only achieve more than average, they also approach tasks with a sophisticated style. However, their application to tasks is responsive to fatigue, discouragement (immediate or long term) and the degree of challenge. Nevertheless, when highly achieving, they display:	Displays advance skills in one or more subjects			
	Alertness			
	Responsivity to novel stimuli			
	Speed and efficiency of information processing			
	Willingness to reflect, when necessary, in order to maintain accuracy			
	Openness to new ideas and experiences			
	Motivation and curiosity in a search for understandings			
	Wide-ranging interests			
	An intense focus on or the ability to immerse themselves in an area of interest, in order to achieve a depth of understanding			
	Longer than usual concentration span on challenging topics of interest (but may 'flit' from one activity to another if activities are not challenging enough)			
	Early use of metacognitive skills to manage their own thinking processes			
	Internal locus of control			
	Independence at challenging, non-routine tasks			
	Willingness to take risks			
Perseverance in the face of obstacles				
Tolerance of ambiguity				
Creative thinking style: Children who are intellectually and creatively gifted might display the following learning styles, applying these across domains or in a single domain in which they excel:	Imagination			
	Creative problem solving			
	Use of intuition (that is, allowing some of their thinking to occur at a preconscious level)			
	Fluency, which reflects an ability to employ a range or quantity of ideas			

	Flexibility, which refers both to the quality of ideas brought to bear on the problem and to skill at adapting their learning style to the task demands and goals			
	Being nonconforming and rejecting limits			
Auditory-sequential style: Children who learn by listening and ordering ideas often:	Learn sequentially: one idea at a time			
	Are analytical: are able to break problems down into their parts			
	Attend well to details			
	Learn well from verbal instructions			
	Are able to carry out instructions to do several things in succession			
	Think logically			
	Have good planning skills			
	Are organised			
	Are less impulsive than age-mates			
	Have a clear understanding of cause-and-effect			
	Use rehearsal to remember			
Once in school, earn reasonably even grades across all subject areas				
Visual-holistic style: Children who learn by forming visual images of concepts may be later than others to excel, but nevertheless:	Learn concepts all at once (holistically)			
	Synthesise ideas: that is, put them together			
	See the big picture and, correspondingly, may miss details			
	Learn intuitively			
	Have what can only be termed 'quirky' organisational systems			
	Learn instantly and so do not benefit from rehearsal or repetition			
Once in school, obtain uneven grades across subject areas				
Speech and language skills: Intellectually gifted children with advanced verbal skills often show:	Early comprehension			
	Advanced speech, in terms of vocabulary, grammar and clear articulation			
	Use of metaphors and analogies			
	Ability to make up songs or stories spontaneously			
	Ability to modify language for less mature children			
	Use of language for a real exchange of ideas and information at an early age			
	A sophisticated sense of humour			
Motor abilities: Many intellectually gifted children have fine motor skills that lag behind their intellectual level. On the other hand, those who are gifted in the motor domain can show a range of the following characteristics:	Early motor development, particularly in skills that are under cognitive control such as balance			
	Ability to locate themselves within the environment			
	Early awareness of left and right			
	Facility at putting together new or difficult puzzles			
	Ability to take apart and reassemble objects with unusual skill			
	Ability to make interesting shapes or patterns with objects			
	Advanced drawing or handwriting			
	High levels of physical energy			
Artistic expression:	Superior visual memory			

Although most young children may not yet have been exposed to the arts in any formal way and so may not be showing artistic talent, some display early signs of instinctive art skill, such as:	Engaging with an imaginary playmate in elaborate conversations and games			
	Assigning elaborate characters to dolls or teddies			
	Creating and performing in plays			
	Enjoyment of drama, role playing			
	Advanced skill at drawing, painting or other artistic modalities			
Musical skills: Musical giftedness may be among the earliest to emerge – by the age of one year – although very young children’s motor ability can block their musical performance. Musically gifted children:	Are enthralled by musical sounds			
	Have a deep appreciation and understanding of music (with or without musical performance)			
	Are sensitive to musical structure – tonality, key, harmony and rhythm			
	Appreciate the expressive properties of music – timbre, loudness, articulation and phrasing			
	Have a strong musical memory that permits them to recall music and play it back later either by singing or through an instrument			
Social skills: Intellectually and verbally advanced young children typically are also advanced in their social skills, showing some of the following characteristics:	Highly developed empathy for others			
	Less egocentricity: they can deduce the cause of others’ emotions			
	Advanced play interests			
	Early ability to play games with rules			
	Early ability to form close friendships			
	Seek out older children or adults for companionship			
	Withdraw to solitary play if intellectual peers are not available			
	Are often sought out by other children for their play ideas and sense of fairness			
	Leadership skills			
	Early development of moral reasoning and judgment			
	Early interest in social issues involving injustices			
Emotional and behavioural characteristics: Some intellectually gifted children are emotionally gifted as well. These children might display:	Emotional sensitivity, intensity and responsiveness			
	For some, early spiritual awareness			
	Early development of fears			
	Early development of self-concept and awareness of being different			
	Self-confidence in their strong domains			
	Perfectionism, in the sense of having high standards			
	Over-sensitivity to criticism			
	Frustration, which can lead to emotional or behavioural outbursts			
	Acceptance of responsibility usually given only to older children			
Non-conformity				

TOTAL MOST OF THE TIME _____ TOTAL SOMETIMES _____ TOTAL NOT AT ALL _____

Porter, L 2005, Signs of giftedness. An extract from Porter, L 2005, Gifted young children. Allen and Unwin,

CHARACTERISTICS OF A GIFTED STUDENT

(Queensland department)

A child who is deemed gifted may exhibit many of the below traits, however, it is unlikely that a child will exhibit all traits. As a teacher it is important to compare the child with their age peers.

Student name _____ Teacher _____

A gifted student, when compared with chronological peers:	YES	NO
Finds pleasure in intellectual activities.		
Likes to create, invent investigate, and conceptualise.		
Learns easily and readily		
Displays great intellectual curiosity and inquisitiveness.		
Explores wide-ranging and special interests often at great depth.		
Uses vocabulary which is superior in both quantity and quality.		
Demonstrates a richness of imagery in informal language and brainstorming.		
Learns to read early (often well before school-age		
Displays intellectual and physical restlessness. Once encouraged is seldom a passive learner.		
Memorises easily and retrieves from memory easily and quickly.		
Learns basic skills better, more quickly and with less practice		
Functions at higher cognitive levels earlier.		
Sees relationships more readily and earlier.		
Constructs and handles higher levels of abstractions.		
Evidences an ability to cope with more than one idea at a time.		
Follows complex directions easily.		
Seeks out challenge.		
Shows alertness and quick response to new ideas.		
Becomes excited by new ideas, but often without carrying them through.		
Generates many ideas and multi-solutions to problems.		
Possesses unusual imagination.		
Shows initiative and originality, versatility and virtuosity		
Creates and invents beyond the parameters of knowledge in the field.		
Copes with problems and situations in resourceful and creative ways.		
Questions arbitrary decisions.		
Shows a preference for individual work.		
Demonstrates an ability to do effective work, given minimum direction and guidance, independently at an earlier and for a longer time.		
Evidences a longer attention span that enables concentration on and perseverance in solving problems and/or pushing interests.		
Persists single-mindedly in pursuit of that which captures interest and sometimes difficult to redirect into other activities.		
Has expectations of self and others, which often leads to high levels of frustration with self, others, and situations.		
Demonstrates a keen sense of humour.		
Matures earlier, but there is less difference here when compared with the average.		
Responds and relates to older children and adults and often prefers them to chronological peers.		
Evidences friendliness and outgoingness in desire for social acceptance.		
Displays leadership qualities because knows own mind and abilities; has keener insight into thinking, abilities, and motivations of others; has greater intellectual capacity; and has a highly developed sense of social and moral responsibility.		
YES TOTAL		

Gifted Underachievement

(Reis & McCoach)

(twice-exceptional gifted and talented students who underachieve)

Student _____ Teacher _____

Does your student have any of the following attributes? Please mark with a yes or no response.

Common attributes of giftedness	YES/NO
Is the student motivated?	
Does he/she have problem-solving ability?	
Does he/she have a well-developed memory?	
Does he/she have good insight?	
Does the student possess imagination/creativity?	
Does the student have advanced ability to deal with symbol systems?	
Does the student have advanced interests?	
Does the student have good communication skills?	
Does the student ask questions? (Inquiry)	
Does the student have reasoning ability?	
Does the student possess a sense of humour?	
Characteristics of gifted students with learning disabilities	
Characteristics that hamper identification as gifted	
Frustration with inability to master certain academic skill	
Learned helplessness	
General lack of motivation	
Disruptive classroom behaviour	
Perfectionism	
Super sensitivity	
Failure to complete assignments	
Lack of organisational skills	
Demonstration of poor listening and concentration skills	
Deficiency in tasks emphasizing memory and perceptual abilities	
Low self-esteem	
Unrealistic self-expectations	
Absence of social skills with some peers	
Characteristic strengths	
Advanced vocabulary use	
Exceptional analytic abilities	
High levels of creativity	

Advanced problem-solving skills	
Ability to think of divergent ideas and solutions	
Specific aptitude (artistic, musical, or mechanical)	
Wide variety of interests	
Good memory	
Task commitment	
Spatial abilities	
Overexcitability behaviours	
Intellectual (e.g., curiosity, asking probing questions, concentration, problem-solving, theoretical thinking, etc.)	
Imaginational (e.g., fantasy play, imaginative thinking, daydreaming, dramatic perception, etc.)	
Emotional (e.g., concern for others, timidity and shyness, fear and anxiety, intensity of feeling, etc.)	
Psychomotor (e.g., marked enthusiasm, rapid speech, impulsive actions, etc.)	
Sensual (e.g., sensory pleasures, appreciation of sensory aspects of experiences, etc.)	

Note: Some underachievers may exhibit one or more of the above overexcitabilities.

TOTAL YES _____ TOTAL NO _____

Have you got a student at risk of underachievement or is underachieving?

(Rimm 2 pages)

Student name _____ Teacher _____

Score 1 point for each "yes" response; add the total points for each section.

Section 1	Yes	No
Does the student forget to do homework assignments?		
Does my child give up easily?		
Does the student avoid competitive activities unless he/she is almost sure to win?		
Does the student start working on homework late each night?		
Does the student watch two or more hours of TV (or play two or more hours of video games) on school nights?		
Total points for section 1		
Results for section 1		
4-5 The student has characteristics that indicate a very serious underachievement problem.		
2-3 The student has characteristics that indicate a fairly serious underachievement problem.		
1 The student has characteristics that indicate only minor underachievement problems		
0 The student has no characteristics of underachievement.		
Section 2	Yes	No
Was the student the centre of an unusual amount of attention for the first three years of his/her life?		
Were the student's parents divorced before he/she was a teenager?		
Does the student have a same gender sibling who is less than 3 years younger than he/she?		
Does the student have a same gender sibling who is less than 3 years older than he/she?		
Does the student want a lot of one-to-one attention?		
Total points for section 2		
Results for section 2		
4-5 The student encountered very serious risks for underachievement.		
2-3 The student encountered fairly serious risks for underachievement.		
1 The student encountered only minor risks for underachievement.		
0 Indicates no obvious risk factors that would lead to underachievement.		
Section 3	Yes	No
Is the mother or father in this student's family perfectionistic?		
Does the student tend to ignore his/her mother, father, or teacher when they make requests?		
Did the mother or father in this student's family not like school?		
Is the mother or father in this student's family unhappy in his/her career?		
Is the mother or father in this student's family disorganised?		
Does the mother and father in this student's family have very different approaches to child rearing?		
Is one parent in this student's family a more rigid disciplinarian than the other?		
Do the student's grandparents live nearby and overindulge him/her?		
Total points for section 3		
Results for section 3		
5-8 The student has very serious problems related to imitation of family patterns		
3-4 The student has fairly serious problems related to imitation of family patterns.		

1-2 The student has minor problems related to imitation of family patterns		
0 The student has no apparent problems related to imitation of family patterns.		
Section 4		
Dependent underachiever	Yes	No
Do other children seem to pick on the student?		
Is the mother or father in this student's family overprotective?		
Does the student need lots of parent help with homework?		
Does the child often play the class clown?		
Does the student cry, whine, or complain a lot?		
Total points for dependency		
Results for dependent underachiever		
4-5 The student has very serious dependency problems.		
2-3 The student has fairly serious dependency problems.		
1 The student has only minor dependency problems		
0 The student has no dependency problems.		
Dominant underachiever		
Does the student brag a lot when he/she does something well?		
Does the student often disobey his/her mother, father or teacher?		
Does the student blame others or find excuses?		
Does the student often convince a parent or teacher to change his/her mind?		
Does the student get one parent (or teacher) to say yes after the other parent (or teacher) says no?		
Total points for dominance		
Results for dominant underachiever		
4-5 The student has very serious dominance problems.		
2-3 The student has fairly serious dominance problems		
1 The student has only minor dominance problems		
0 The student has no dominance problems.		
Section 5		
Is the student bored with school?	Yes	No
Does the student seem to ask for more teacher help than most children?		
Does the student tend not to finish class assignments?		
Does the student disrupt the class by talking too much?		
Does the student complain that schoolwork is too easy?		
Is socialising the most important part of school for the student?		
Does the student's class emphasize competition in almost everything?		
Does the student's class attempt to eliminate all competition?		
Total points for section 5		
Results for section 5		
5-8 The student has characteristics that indicate a very serious underachievement problem.		
3-4 The student has characteristics that indicate a fairly serious underachievement problem.		
1-2 The student has characteristics that indicate only minor underachievement problems.		
0 The student has no characteristics of underachievement.		

Place any comments on back of this sheet

‘Things my child has done’ GIFTED AND TALENTED CHECKLIST FOR PARENTS (Saylor 6 pages)

Student name _____ Teacher _____ Age _____ Date _____

Indicate how much you think this student is like the item by using the scale to the right of each item. Mark Strongly Disagree (SD) to Strongly Agree (SA). Place a tick for each item. If you are unclear or haven't noticed how this student compares to an item, tick the Unsure or Don't know (U/D) space.

CHARACTERISTIC/BEHAVIOUR	RATING													
	U/D	SD	0	1	2	3	4	5	6	7	8	9	10	SA
<p>1. Has quick accurate recall of information. (e.g. good short and long-term memory; quick to provide facts, details, or stories related to complex events; learns quickly and recalls accurately words to songs, poems, stories, or conversations; points out connections between ideas and events)</p> <p>An example:</p>														
<p>2. Shows intense curiosity and deeper knowledge than other children. (e.g. asks questions incessantly once imagination has been aroused, pays close attention when learning, has an enthusiastic need to know and explore, remembers things in great detail)</p> <p>An example:</p>														

<p>3. Is empathetic, feels more deeply than do other children that age. (e.g. exhibits maturity usually associated with older children; shows unusual hurt or pain when he or she displeases someone; displays pride in advanced accomplishments; is sensitive to others' feelings and shows distress at other children's distress or adult's distress; will subjugate their needs to the needs of others; reads body language)</p> <p>An example:</p>	U/D	SD	0	1	2	3	4	5	6	7	8	9	10	SA
<p>4. May not always display their advanced understanding in everyday situations. (e.g. becomes cranky or non-compliant when fatigued or stressed; playground behaviour may not reflect their verbal reasoning about the same situations; may be frustrated with their ability to meet their own high expectations)</p> <p>An example:</p>	U/D	SD	0	1	2	3	4	5	6	7	8	9	10	SA

<p>5. Uses advanced vocabulary. (e.g. correctly uses vocabulary and phrasings adults would expect from older children; surprises adults and children with big words or phrases they use; likes complex communication and conversations)</p> <p>An example:</p>	U/D	SD	0	1	2	3	4	5	6	7	8	9	10	SA
<p>6. Reads, writes, or uses numbers in advanced ways. (e.g. reads earlier than most children or if learns to read at the same time as most children, but does so very quickly; likes to read rapidly to get the gist of a story even though some words are skipped or mispronounced; interest in copying or using letters, words or numbers; uses computational skills earlier than others)</p> <p>An example:</p>	U/D	SD	0	1	2	3	4	5	6	7	8	9	10	SA
<p>7. Advanced play interests and behaviours. (e.g. exhibits play interests that resemble those of older children; likes to play board games designed for older children, teens or adults; more apt to be interested in cooperative play, complex play situations, or sophisticated play activities)</p> <p>An example:</p>	U/D	SD	0	1	2	3	4	5	6	7	8	9	10	SA

<p>8. Shows unusually intense interest and enjoyment when learning about new things. (e.g. spends long periods of time exploring interesting new things; listens for long periods of time to stories and conversations; retells events and stories in great detail; entertains self for long periods of time; shows unwavering attention sometimes to the point of stubbornness; sits patiently when reading or listening to books)</p> <p>An example:</p>	U/D	SD	0	1	2	3	4	5	6	7	8	9	10	SA		
	<p>9. Has an advanced sense of humour or sees incongruities as funny. (e.g. is humorous in speech, social interactions, art or story telling; makes jokes, puns, plays on words; sees humour in situations, even ones against him or her, and laughs at the situation)</p> <p>An example:</p>	U/D	SD	0	1	2	3	4	5	6	7	8	9	10	SA	
		<p>10. Understands things well enough to teach others. (e.g. likes to play school with other children, dolls or stuffed animals; talks like an 'expert' or likes to discuss certain topics a lot; explains ideas to adults when he or she doesn't think the adult understands very well)</p> <p>An example:</p>	U/D	SD	0	1	2	3	4	5	6	7	8	9	10	SA

11. Is comfortable around older children and adults. (e.g., craves for attention from adults; likes to be with older children and adults; listens to or joins in adult conversations; often plays with and is accepted by older children)	U/D	SD	0	1	2	3	4	5	6	7	8	9	10	SA		
	An example:															
	12. Shows leadership abilities. (e.g., has a verbal understanding of social situations; sought out by other children for play ideas; adapts his or her own words and expectations to needs or skill level of playmates; may be seen as bossy; uses verbal skills to deal with conflicts or to influence other children)	U/D	SD	0	1	2	3	4	5	6	7	8	9	10	SA	
		An example:														
		13. Is resourceful and improvises well. (e.g., makes ingenious or functional things from LEGO or other building toys; uses toys in unique or non-traditional ways; plays with or carries on conversations with imaginary friends; makes up believable endings to stories)	U/D	SD	0	1	2	3	4	5	6	7	8	9	10	SA
			An example:													

14. Shows logical and metacognitive skills in managing own learning. (e.g., understands game rules quickly; learns from mistakes in playing games; sees errors or losses as learning experiences rather than failures; monitors difficulty of task to push self to more challenging levels)	U/D	SD	0	1	2	3	4	5	6	7	8	9	10	SA

An example:

15. Uses imaginative methods to accomplish tasks. (e.g. presents unique arguments in order to convince others to allow him or her to do or get things; finds imaginative ways to get out of doing things they don't want to do; curious with a high energy level that is goal directed)	U/D	SD	0	1	2	3	4	5	6	7	8	9	10	SA

An example:

16. Use the back of this page to say anything you think is important about this student that is not known. Please feel free to add any information you think might be useful in giving a clearer picture of what the student has done. Be as specific as possible in describing the student's interests and accomplishments. If you can share some copies of this student's creative work, it would be greatly appreciated.

Self-nomination form (adapted from: advancedacademicprograms.dadeschools.net)

Student name _____ Age _____

Please tick one of the spaces if you agree or disagree with the statement	Strongly agree	Agree	Disagree	Strongly disagree
1. I am a good athlete				
2. I am a good student				
3. I find school work boring				
4. I understand and accept others				
5. I am sociable and know how to get along with others				
6. Others think that I am intelligent				
7. I am warm and understanding				
8. I am easy to get along with				
9. I enjoy working with mechanical things				
10. I enjoy abstract problems				
11. I prefer to work in groups				
12. I enjoy reading books				
13. I enjoy discussing or debating an idea				
14. I have a good sense of humour				
15. My work is often original				
16. I like finding solutions to problems				
17. I like to oversee the planning of a project				
18. I ask questions if I do not understand				
19. I enjoy mathematical problems				
20. I enjoy working with scientific things				
21. I like going to school				
22. I like getting or doing homework				
23. I find school work interesting				
24. I prefer to work on my own				
25. I have an excellent memory				
26. I learn things very easily				
27. I have a long attention span				
28. I have a creative imagination				
29. I have a wide variety of interests				
30. I have lots of friends				
What areas do you have an interest or ability? (e.g., Math, Science, Music, Drama, Dance, Art, Reading)				
Why do you like those areas?				

STRONGLY AGREE _____ AGREE _____ DISAGREE _____ STRONGLY DISAGREE _____

Young Gifted Characteristic Checklist

(Silverman 1)

Student name _____ Teacher _____

Early Signs of Giftedness	Agree	Not Sure	Disagree
Unusual alertness in infancy			
Long attention span in infancy			
Less need for sleep in infancy			
Smiling or recognizing caretakers early			
Advanced progression through developmental milestones			
High activity level			
Extraordinary feats of memory			
Intense interest in books			
Keen powers of observation			
Ability to generalize concepts			
Recognition of letters before age 2			
Ability to put together a 20-piece puzzle before age 3			
Asks complex, probing questions			
Early interest in time—clocks, calendars			
Imaginary playmate			
Early Indications of Superior Ability			
Excellent Memory			
Long attention span and intensity of focus			
Early and extensive vocabulary development			
Extreme curiosity, asking complex, probing questions			
Learns very rapidly			
Abstract thinking, ability to generalize concepts			
Recognised letters of alphabet before the age of two			
Exceptional aptitude for mathematical reasoning			
Active imagination and creativity			
Intense interest in books and words			
TOTAL AGREE _____ TOTAL UNSURE _____ TOTAL DISAGREE _____			

Gifted Development Centre (Silverman 2)
The Institute for the Study of Advanced Development

CHARACTERISTICS OF GIFTEDNESS SCALE

Name of Child _____ Teacher _____
 Date _____

Compared to other children the same age, to what extent do these descriptors fit the child?

Characteristic	Not True	Not Sure	True	Very True
1. Reasons well (good thinker)				
2. Learns rapidly				
3. Has extensive vocabulary				
4. Has an excellent memory				
5. Has a long attention span*				
6. Sensitive (feelings hurt easily)				
7. Shows compassion				
8. Perfectionist				
9. Intense				
10. Morally sensitive				
11. Has strong curiosity				
12. Perseverant when interested*				
13. Has high degree of energy				
14. Prefers older companions/adults				
15. Has a wide range of interests				
16. Has a great sense of humour				
17. Early or avid reader**				
18. Concerned with justice, fairness				
19. Judgment mature for age (at times)				
20. Is a keen observer				
21. Has a vivid imagination				
22. Is highly creative				
23. Tends to question authority				
24. Shows ability with numbers				
25. Good at jigsaw puzzles				
26. Is an independent learner				

TOTAL NOT TRUE _____ TOTAL NOT SURE _____
 TOTAL TRUE _____ TOTAL VERY TRUE _____

* (Long attention span or perseverant *if interested*; Does the child stay with tasks for long periods of time?)

** (If the child is too young to read, is intensely interested in books)

Please give examples of those characteristics that best describe the child (Use back of sheet).

Gifted Development Centre (Silverman et al. 2019)

(This resource is known as Silverman 3 resource for this research)

The Institute for the Study of Advanced Development

Parent/Teacher/Counsellor Checklist for Recognising Twice Exceptional Children

Child's Name: _____ Gender: M___ F___ Birth Date: _____

Your Name: _____ Date: _____

(Tick one) Parent: _____ Teacher: _____ Counsellor: _____

INSTRUCTIONS

Please answer each item as well as you can. Mark "Sometimes" if you have **ever** observed this behaviour

Item	General characteristics of the twice exceptional learner	Sometimes/ Often	Not Observed
1	Appears smarter than grades or test scores suggest		
2	Has a sophisticated speaking vocabulary but poorer written expression		
3	Participates well in class discussions but does not follow through with implementation		
4	Has uneven academic skills, inconsistent grades and test scores		
5	Does well when given sufficient time, but performs poorly on timed tests and takes much longer to complete assignments and homework than other students		
6	Experiences loss of confidence and self-esteem in area(s) of weakness		
7	Excels in one area or subject, but may appear average in others		
8	Performs well with challenging work, but struggles with easy material		
9	Needs unusual parent support in academic learning, social interaction, organisation, etc		
10	Has wonderful ideas, but has difficulty organising tasks and activities		
11	Has facility with computers, but illegible or slow handwriting		
12	Resists demonstrating weaknesses; may deflect attention with humour, etc		
13	Thrives on complexity but has difficulty with rote memorisation		
14	Understands concepts easily and gets frustrated with the performance requirements		
15	Fatigues easily due to the energy required to compensate		

Comments:

Item	Visual Processing Weaknesses	Sometimes/ Often	Not Observed
16	Struggles with reading		
17	Mixes up plus and minus signs		
18	Has difficulty lining up numbers in calculations		
19	Has difficulty copying from the board		
20	Puts face close to the paper when writing or reading		
21	Skips lines and loses place in reading		
22	Poor spacing when writing		
23	Tires easily when reading or writing		
24	Makes "careless errors" in written work		

Comments:			
Item	Auditory Processing Weaknesses	Sometimes/ Often	Not Observed
25	Does not seem to hear you; may need several repetitions before responding		
26	Mispronounces words or letter sounds		
27	Confuses similar sounding words (e.g., “agent” and “ancient”)		
28	Makes grammatical errors in speech		
29	Misunderstands information		
30	Watches other students to find out what to do		
31	Does not pay attention when being read to or during lectures		
32	Weak grasp of phonics affects spelling and pronouncing unfamiliar words		
33	Has a loud voice, especially when there is background noise		
34	Responds better to directions when shown examples of what is expected		
35	Is exhausted after prolonged listening, particularly in the afternoon		
Comments:			
Item	Sensory Processing Issues	Sometimes/ Often	Not Observed
36	Is clumsy and awkward		
37	Has an odd pencil grip		
38	Does not hold paper in place when writing		
39	Has illegible handwriting and tends to avoid writing		
40	Is poor at athletics		
41	Wears very similar soft clothes every day		
42	Gets upset when brushed against accidentally, as in standing in line		
43	Props self in chair rather than sitting up straight		
44	Becomes easily overstimulated and may throw tantrums		
45	Has low energy and tires easily		
46	Uncomfortable with crowds		
47	Has difficulty with transitions		
48	When younger, had difficulty deciding handedness		
Comments:			
Item	Attention Deficit/Hyperactivity Disorder Symptoms	Sometimes/ Often	Not Observed
49	Has difficulty awaiting turn		
50	Acts impulsively without awareness of consequences		
51	Intrudes on others		
52	Is in motion as if “driven by a motor”		
53	Has difficulty remaining seated		
54	Fidgets with hands or feet or squirms in seat		
55	Easily distracted		
56	Classroom and test performance are variable		
57	Spaces out during assignments and homework, often not completing tasks		
58	Forgetful; may only remember part of an instruction		
59	Concentrates deeply when interested and not at all when not interested		
60	Responds to partial information, thinking understands fully		
61	Complains of boredom, unless work is novel, stimulating, or self-selected		

Comments:			
Item	Dyslexia or Stealth Dyslexia	Sometimes/ Often	Not Observed
62	Reads at a lower level than expected for ability; reading may be average but reasoning is superior		
63	Struggles to learn sound-symbol relationships		
64	Reading comprehension is stronger than phonetic decoding of words		
65	Shows reversals; may confuse right and left		
66	Has difficulty learning to read analogue clocks		
67	Sequential and rote memory lack permanence		
68	Spelling and math facts may be forgotten after practice		
69	Spells the same word in several different ways		
70	Written output is more difficult than verbal discussion		
71	Struggles to sequence ideas on paper		
72	Anxious about reading aloud		
73	May leave out words or substitute words with similar meanings or appearance		
Comments:			
Item	Autistic Spectrum Disorder (includes "Asperger Syndrome")	Sometimes/ Often	Not Observed
74	Struggles to read social cues: thoughts/feelings of others, nonverbal responses, body language, motivation of others, and others' response to own behaviour		
75	Does not respond appropriately to others' feelings		
76	Shows rigidity: once a decision has been made, it is very difficult to change it		
77	Shows sensory issues (e.g., poor fine/gross motor coordination, difficulty with loud sounds, tactile sensitivity, and transitions)		
78	Experiences anxiety, particularly regarding social expectations and conventions		
79	May have flat affect		
80	May have difficulty with unfamiliar inferential language, idioms, etc., tending to be more literal, black and white		
81	Has limited eye contact		
82	Unexpected changes often elicit strong emotional distress		
83	Limited initiation of social interaction; difficulty responding to overtures by others		
Comments:			

TOTAL OBSERVED _____ **TOTAL NOT OBSERVED** _____

Silverman, L.K., Gilman, B.J., Lovecky, D & Maxwell, E. (2019). Adapted from Silverman, L. & Maxwell, B. (2010). *Teacher Checklist for Recognising Twice Exceptional Children*. Denver: Gifted Development Centre.

Underachievement in Gifted students (Smutny)

Teacher-Parent Collaboration Form

Name of student _____ Teacher _____

The following questions, teachers and parents can explore together.....

Does the child show consistently negative attitudes towards school and learning?
Does the child show reluctance to take risks or to apply themselves?
Does the child lack perseverance?
Does the child lack goal-directed behaviour?
Does the child dislike or has discomfort with competition?
Does the child have a low self-esteem? (i.e., Do they avoid social interactions and feel inadequate?)
Is the child disruptive in class and/or at home?

Is he/she resistant to classroom activities?
Does this child daydream? Is he/she easily distracted?
In what areas has the child shown exceptional ability?
What is the child's preferred learning styles?
What insights do parents and teachers have about the child's strengths and problem areas?
What does the child say about self-needs, interests, and school experiences, and how is this information to be interpreted?

Smutny, J 2004, Meeting the needs of gifted underachievers-individually (adapted by Lyons K 2019)

GIFTED CHARACTERISTICS CHECKLIST

(Spratt)

Please review this list. List below those students who exhibit any of these characteristics and put the number of those that apply to each student.

1. High verbal ability; discusses in elaborate detail.
2. Has complex thoughts and ideas.
3. Has in-depth information about a large variety of topics.
4. Learns quickly and easily without repetition; retains information longer.
5. Constantly asks questions that are unusual, shows insight and/or relation to other experiences.
6. Finds solutions in different ways; uses common materials in innovative ways.
7. Sensitive to and aware of current events of global importance.
8. Has wild, silly ideas, but on questioning has logical explanations.
9. Often sceptical, questioning and challenging; can be critical of teachers.
10. Prefers adults and older children.
11. Doesn't enjoy routine, repetitive tasks, easily bored.
12. Prefers independent, individual tasks; can be a loner.
13. Can have a longer attention and concentration span than peers.
14. Reads well and about a number of subjects, or one subject to the extreme.
15. May exhibit daydreaming behaviours, but able to respond to questions when asked.
16. Can be highly critical of self; has high expectations.
17. Easily recognises similarities, differences, and unusual situations.
18. Enjoys learning but can be unmotivated, produce little work and exhibit poor behaviours.
19. More independent than peers.
20. Prefers structure, organisation and consistency.
21. Interested in cause and effect relationships.
22. Enjoys new learning and new ways of doing things.
23. Exhibits special skills unusual for age.
24. Excellent memory for information and able to make logical deductions using that information.

STUDENT	CHARACTERISTICS										TOTAL
TEACHER:						SCHOOL:					

Victorian State Government: Education and Training

(VIC policy, 2 pages)

The list below describes commonly observed behaviours in gifted children with most gifted children displaying several (but not necessarily all) of these: ♣

Student name _____ Teacher _____

BEHAVIOURAL INDICATORS	YES	NO	UNSURE
very quickly remembers facts, or a series of numbers, songs, movies or parts of conversations they have heard ♣			
knows a lot about topics, such as sports, maths, books, animals, music, art, etc.			
surprises older children and adults by their use of big words and/or correct terms, and adapts speech according to the age of the audience. For instance, speaks like an adult when talking with adults and speaks like a child when talking with children.			
may have begun to read or write at an early age without being formally taught, and prior to entering school.			
is an enthusiastic learner and shows intense interest, energy and enjoyment when learning new things.			
uses lots of 'how' and 'why' questions, and cannot be fobbed off with a simple answer; often transfers learning from one field to another.			
teaches other children using their language level about how to do things and explains so that others can understand.			
can behave like a little adult and loves to spend time with adults, enjoys adult jokes and participates in adult conversations and discussions.			
shows leadership abilities, and other children seek their help to solve informal problems.			
may make up rules for games that are quite complicated and not easy for peers to abide by, and can be bossy.			
is resourceful and can put together various household objects to invent and solve problems.			
can make something out of nothing (has inner resources).			
uses imaginative methods to accomplish tasks and therefore can use creative methods to get out of doing tasks, makes imaginative shortcuts and does not always follow rules.			
can be unusually sad and emotional when things do not go to plan.			

Often it is the 'learning attributes', the intellectual and thinking capacities that a child is able to use in their learning, which indicates they are markedly advanced for their age. These 'learning attributes' include:

LEARNING ATTRIBUTES	YES	NO	UNSURE
showing a high level of alertness			
being intensely curious			
having an exceptional memory			
displaying great concentration			
demonstrating intense task commitment (especially to a task of own choosing)			
synthesising knowledge to come up with greater understanding			
learning very rapidly - needs few if any repetitions			
being highly imaginative and/or creative			
asking probing questions, such as 'If our weather is affected by ocean currents, what affects the ocean currents?'			
analysing answers given by others and asking further pertinent questions.			

TOTAL YES _____ **TOTAL NO** _____ **TOTAL UNSURE** _____

Notes: _____

Source:
<https://www.education.vic.gov.au/school/parents/learning/Pages/giftedlearning.aspx>

CHARACTERISTICS COMMON TO UNDERACHIEVING GIFTED STUDENTS
(WA Document: adapted from Whiteman 1980 and Fisher 2005)

Student _____ Teacher _____

CHARACTERISTICS				
Does the student demonstrate any of the following common characteristics and patterns of underachievement?			Yes	No
A very high IQ?	Unsure			
Poor Work Habits				
A seeming inability to concentrate				
Lack of effort in tasks?				
An intense interest in one particular area?				
Frequently unfinished work?				
Low self-esteem?				
Emotional frustration?				
Negative attitudes toward self and peers?				
Failure to respond to motivation by usual teacher techniques?				
A skill deficit in at least one subject area?				
Inattentiveness to tasks at hand?				
BEHAVIOUR PATTERNS				
Note: Gender differences may be seen in the tendency toward aggressive behaviour or withdrawn behaviour in students.			Yes	No
Stubborn refusal to comply with requests?				
Attention seeking by varied strategies?				
Disruption of others instead of work completion or on-task behaviour?				
Continual rejection of assigned work with such reasons as "I already know it"?				
Absence of self-direction in decision-making?				
Continual alienation of peers because of aggressive behaviour and/or negative attitudes?				
Lack of communication with peers or teachers				
Tendency to live in a fantasy world or appears out of touch with reality?				
Prefers to work alone rather than in a group?				
Little in class work?				
Little attempt to justify behaviour that seems withdrawn or disconnected?				

CHARACTERISTICS OF INTELLECTUALLY GIFTED STUDENTS		
ACHIEVEMENT	Yes	No
Has a large vocabulary.		
Has many interests or hobbies		
LEARNING		
Asks penetrating and probing questions		
Comprehends new ideas very quickly.		
Has a quick mastery and recall for factual information.		
Can grasp underlying principles and make generalizations		
Engages in lively and stimulating conversations but has difficulty in writing ideas.		
PERSONALITY AND MOTIVATION		
Is curious and investigative		
Is easily bored or inattentive.		
Likes to work independently.		
Is often self-assertive, stubborn in own beliefs.		
Displays high energy level, alert, eager.		
Creativity		
Prefers complex or unconventional ideas.		
Sees familiar things or situations in an unusual way.		
Produces original products or ideas.		
Displays a sense of humour.		
Social and leadership qualities		
Makes judgments about right and wrong.		
Is a non-conformist.		
Seeks the company of older children or adults.		
Displays a high degree of verbal fluency among peers, uses colourful expressions, and often gives direction to a group.		
ADDITIONAL FACTORS TO CONSIDER		
Comes from a background that is culturally or linguistically diverse (or different from the majority of students)		
Comes from a low socio-economic background.		

Total YES _____ Total NO _____

CCEA & NCCA: Individual Record Sheet

(Page 1 of 2)

School name:		Date:		
Student name:		Review dates:		
		Date of birth:		
Name of person(s) referring the student:				
Recent assessments and results (please date)				
Ma:	En:	Other	Other	Other
Area of ability (please highlight):				
A: general intellectual ability or talent				
B: specific academic aptitude or talent				
C: visual and performing arts and sports				
D: leadership ability				
E: creative and productive thinking				
F: mechanical ingenuity				
G: special abilities in empathy, understanding and negotiation				
Details of specific abilities:				
Action to be taken:				
Outcomes with date:				

Individual Record Sheet (Page 2 of 2)

Monitoring arrangements:	
Provision:	
Additional support:	
Extension work:	
Grouping:	
Out of school enrichment activity:	
Copy to (please tick): Class teacher Co-ordinator Parent/carer Principal Next school	Signed: Parent/carer: Teacher: Date:

Classroom Strategies Checklist

Audit	Part of practice	Needs more work
Being aware of school policy and practice for Gifted and Talented students.		
Referring to subject policy guidance on working with Gifted and Talented students.		
Liaising with subject co-ordinators where necessary.		
Using a variety of forms of differentiation in their teaching.		
Planning for the use of higher order learning skills in their teaching.		
Considering and planning for different learning styles.		
Setting high expectations for the Gifted and Talented students.		
Considering early examination entry.		
Grouping Gifted and Talented students together for specific subjects or activities.		
Pacing lessons to take account of the rapid progress of some Gifted and Talented students.		
Giving time for Gifted and Talented students to extend or complete work if they need it.		
Moving Gifted and Talented students into another class (of older students) for some or all work, if their needs cannot be met in their normal class.		
Setting homework which is challenging for Gifted and Talented students.		
Monitoring and recording the progress of Gifted and Talented students.		
Undertaking lesson observations which monitor the progress and attainment of Gifted and Talented students.		

Guidelines for Teachers (CCEA & NCCA)

Gifted and Talented audit form

Student Name _____ Teacher _____

Date _____

(Sometimes = S/T; Not Sure = N/S)

AUDIT	YES	S/T	NO	N/S
The school has identified a teacher who leads Gifted and Talented				
The policy is written and shared with all staff and governors				
All staff, including classroom assistants, are aware of the school policy and practice for Gifted and Talented students				
Teachers know who the Gifted and Talented students are in their class or classes and are aware of the range of their abilities				
Subject policies or departmental handbooks include guidelines for staff working with Gifted and Talented students				
Lesson content is differentiated to take account of the needs of the Gifted and Talented				
Teachers use a variety of forms of differentiation in their teaching				
High expectations are set for Gifted and Talented students				
Gifted and Talented students are grouped together for specific subjects (e.g., maths) or activities as appropriate				
Lesson pace geared to take account of the rapid progress of Gifted and Talented students				
Gifted and Talented students are given extra time to extend or complete work when required				
The teacher liaises with the subject co-ordinator or Head of Department in instances where the student is providing a challenge in terms of their educational requirements				
Gifted and Talented students are moved into another class (of older students) for some or all work if their needs cannot be met in their normal class				
Homework is challenging for Gifted and Talented students				
Specific homework is set for Gifted and Talented students				
Gifted and Talented students' progress is monitored and recorded by staff				
Continuing personal development includes a focus on the needs of the Gifted and Talented				
Guidance is given to student teachers on approaches to the education of Gifted and Talented students.				
Additional extra-curricular opportunities are provided after school or during lunch-times in academic, creative and sporting activities				
The school or departmental Gifted and Talented policy, practice and routines are kept up-to-date				

Levels of Giftedness

(Ruf 2009)

Child's name _____

Place a tick next to the characteristic/behaviour which describes your child

Level One

Many recognised colours and could rote count before age two.
Most knew and said many words before 18 months.
Many liked puzzles before age two.
Sat still and attended to TV by 18 to 30 months.
Real counting, most letters and colours by age three.
Complex speaking and extensive vocabulary by age three.
Recognised simple signs, own written name, and most knew alphabet by age four.
Most did simple addition and subtraction by age four.
Most showed interest in learning to read before age five.
All read simple signs and most read beginner books by age six.
Most were independent on computer and started to keyboard by age six.
Most fully grasped counting and basic number facts by age six.
All were reading and were two to three years beyond grade level by age seven.
All could read chapter books independently by age seven to seven and a half.
Many showing impatience with repetition and slow pace at school by age seven or eight.

Level Two

Almost all the children understood adult directives and questions at 6 to 12 months.
The majority independently looked at and turned pages of books by 11-15 months.
About half the children said two-word phrases by 15 months.
A number of children played with shape sorters by 15 months.
Most knew many letters at 15-18 months.
Most knew most colours by 15-20 months.
Many liked puzzles by 12 to 15 months (8-10 piece puzzles).
Most knew and called out names on signs and stores between 11 and 16 months.
Several "read" numerous sight words at 16-24 months.
Almost all were speaking in three-word and longer sentences by age two.
Many recognised and picked out specific numbers by 12-22 months.
About 25% knew the entire alphabet by 17-24 months.
Most did one-to-one counting for small quantities by age 3.
Most knew most letters and colours by age three.
Most had extensive vocabularies and did complex speaking by age three.
Many could print letters, numbers, words, and their names between 3 and 4 years.
Several had high interest in facts, how things work, and science by 3½ to 4½.
Most knew many sight words by age 4.
Several read easy readers by age 4.
Most were independent on computer by age 4½.
Most fully grasped counting and basic number facts by age five.
Many showed intuitive grasp of number concepts by age five.
Most enjoyed having advanced level books and stories read to them by age five.
Most read easy reader books before age five, nearly all by 5½.
Most read for pleasure and information by six.
All read two to five years beyond grade level by age 7.
All read chapter books independently by age 7-7½.
Many showed impatience with repetition and slow pace at school by age 6-7.

Level Three

Most were alert at birth or soon thereafter.
Most had books as a favourite interest before age one.
Almost all understood what someone was talking about by 6 months.
Most independently looked at and turned pages of books before 10 months.

Most made their families understand what they wanted before 12 months.
Most had large vocabularies, receptive and expressive, by 16 months.
A number of children played with shape sorters by 11 months.
Many recognised some colours, shapes, numbers and letters before 12 months.
Many recognised and picked out specific numbers and letters by 12-15 months.
Most knew many colours by 15-18 months.
Many liked puzzles by 15 to 24 months (35+ piece puzzles).
Most “read” names on signs and stores from between 20 months and 3¾ years.
Many children “read” numerous sight words between 15 and 20 months.
Many memorized the books that were read to them before they were two years old.
Many showed interest in letter sounds and sounding out short words by age 2½.
Most were speaking in complex sentences, more than four words, by 15 to 24 months.
Many could rote count to 10, many higher, by 15 to 24 months.
Almost all knew the entire alphabet by 17-24 months.
Most could print letters, numbers, words, and their names between 2¾ and 3½ years.
Many had high interest in factual information, how things work, science, by 3 to 4.
Most knew many sight words by age 3-3½.
Half could read very simple books – perhaps memorized – by age 3-3½.
Most grasp skip counting, backwards, basic addition and subtraction, by 3 to 4 years.
Many keyboarding – typing – by 3 to 4½ years.
Most could read easy readers by age 4 to 5 years.
Many questioned the reality of Santa Claus and Tooth Fairy by 3 to 5 years.
Most read children’s-level chapter books by 4¼ to 5½ years.
Many understood some multiplication, division and some fractions to 5½.
Most read for pleasure and information by six.
All were reading two to five years beyond grade level by age six.
All could read youth and young adult chapter books independently by age 7-7½.

Level Four

Almost all paid attention within months of birth while someone to read to them.
Books were a favourite interest before three or four months.
Almost all understood parental directives by 6 months.
Most knew and said some words by 5½ to 9 months.
Many had large vocabularies, receptive and expressive, by 14 months.
Many recognised and picked out specific numbers and letters by 12-15 months.
Most knew many colours by 15-18 months.
Many liked puzzles by 15 to 36 months (35+ piece puzzles).
Many “read” numerous sight words between 15 and 20 months.
Almost all knew the entire alphabet by 15-22 months.
Most “read” names on signs and stores from between 20 months and 3¾ years.
Many memorized the books that were read to them before they were 2 years old.
Many showed interest in letter sounds and sounding out short words by age 2½.
Most were speaking in complex sentences, more than four words, by 15 to 24 months.
Many could rote count to 10, many higher, by 13 to 20 months.
Most printed letters, numbers, words, and their names between 2¾ and 3½ years.
Many had high interest in factual information, how things work, science, by 3 to 4.
Most knew many sight words by age 3-3½.
Most grasp skip counting, backwards, addition, subtraction, more and less, by 3 to 4 years.
Most were independent on computer by age 3 to 4½ years, most keyboarding by five.
Most read easy readers by age 3½ to 4½ years.
Many question the reality of Santa Claus or Tooth Fairy by 3 to 4 years.
Many understand some multiplication, division and some fractions by 5.
Most read for pleasure and information by five.
All read two to five years beyond grade level by age six.
All read youth and adult chapter books independently by age 6-6½.

Level Five

All were alert at birth or soon thereafter.
Books were a favourite interest of most before three or four months.
All appeared to understand parental directives between birth and four months.
The majority independently looked at and turned pages of books before 6 months.
Most knew and said some words by 5½ to 9 months.

All had large receptive vocabularies by 8-9 months.
 Half spoke well before age one.
 All spoke at near-adult level complexity by age two.
 Most played with shape sorters before 11 months.
 Many recognised and picked out specific numbers and letters by 10 -14 months.
 All knew colours, numbers, the alphabet and shapes by about 15 months.
 Most were good at puzzles before 12 months, 35+ piece puzzles by 15 months.
 All showed musical aptitude before 18 months.
 All "read" words on signs and simple books and labels before two years.
 Many read numerous sight words by 15 months.
 All memorized books read to them before 20 months.
 All had favourite TV shows or videos before 6-8 months.
 Many could rote count to 10, many higher, by 13 to 20 months.
 Most could print letters, numbers, words, and their names between 16 and 24 months.
 High interest in factual information, how things work, science, by two years.
 Most read simple books, "board" books, by age 18-24 months.
 Most grasp skip counting, backwards, addition, subtraction, more or less, by two years.
 All were independent on computer by age two years, all keyboarding before three.
 All read children's chapter books by age 3½ to 4½ years.
 All showed interest in pure facts, almanacs, dictionaries, etc. by age 3½.
 All question the reality of Santa Claus or Tooth Fairy by 3 or 4 years.
 All read any level fiction and nonfiction by 4¼ to 5 years.
 All understand abstract math concepts and basic math functions before age four.
 All played adult level games – ages 12 and up – by the time they were 3½ to 4.
 All read six or more years beyond grade level by age six.

Levels of Giftedness	Approximate Score Range	Descriptive Designation
Level One	117 - 129	Moderately Gifted 120-124 Gifted 125-129
Level Two	125 - 135	Highly Gifted
Level Three	130 - 140	Highly to Exceptionally Gifted
Level Four	135 – 141+	Exceptionally to Profoundly Gifted
Level Five	145+	Exceptionally to Profoundly Gifted

What level does your child fit in the most? _____

How many ticks did your child get in that level? _____

GIFTED AND TALENTED INFORMATION AND RESOURCES FOR TEACHERS

Most of the following suggested resources and websites have been sourced from:

<https://www.education.vic.gov.au/Documents/school/teachers/teachingresources/diversity/resourcebk.doc>,

Education of Gifted Students Resource Book (2005) covers resources for all state and territories in Australia (Walsh 2005). It can be used as a reference guide for teachers and parents. Even though these websites and resources have been listed, teachers need to investigate each website of interest to determine whether or not they are suitable for their needs.

(Note # Inclusion of all the listings should not be seen as an endorsement).

WEBSITES

[Gifted and talented students | The Australian Curriculum](#)

Reference site for Australian education provision, with section dedicated to gifted education. Includes general information - a collection of useful sites for challenging activities, links to all Australian Associations and to State and Territory departments.

AUSTRALIAN ASSOCIATION FOR THE EDUCATION OF THE GIFTED AND TALENTED (AAEGT)

Resources for parents: [Resources | AAEGT](#)

Resources for teachers: [Resources | AAEGT](#)

CHILD AND YOUTH HEALTH

<http://www.cyh.com>

Answers to frequently asked questions about gifted and talented children are in the Parent section of the website.

CREATELY.COM

[19 Types of Graphic Organizers for Effective Teaching and Learning \(creately.com\)](#)

Excellent resource for graphic organiser templates. Good for visual learners or for developing thinking skills.

DAVIDSON INSTITUTE: Asynchronous parenting

<https://www.davidsongifted.org/search-database/entry/a10223>

EDUCATION CHANNEL

[Department of Education and Training Victoria](#)

This is Government website provides public access and discovery of educational resources for students of all ages, teachers, parents and the wider community.

Identification of Gifted Children Based on Common Traits - Online Screening
<https://www.psy-ed.com/wpblog/gifted-assessments/#test>

IXL PERSONALISED LEARNING

[IXL | Maths and English Practice](#)

Great site for students with lots of maths problem solving questions and brain teasers.

ENVIRONMENTAL EDUCATION

[What is Environmental Education? | US EPA](#)

List of lessons and activity ideas for environmental education. Many links are Australian and linked to syllabus documents and outcomes. Some units particularly focus on gifted students.

FACULTY FOCUS

[Home - Faculty Focus | Higher Ed Teaching & Learning](#)

Faculty Focus is a free online resource for higher education educators which offers effective teaching strategies, games as study aids, and teaching and learning programs.

FUTURE LEADERS

<http://www.futureleaders.com.au/>

Future Leaders is a national initiative about leadership and the future of Australia. It seeks to involve, inform and inspire young people.

GIFTED AND CREATIVE SERVICES AUSTRALIA

<http://www.giftedservices.com.au>

Gifted & Creative Services is dedicated to providing services that encompass and nourish the whole gifted person and meet emotional, intellectual, physical and educational needs. The site offers information on emotional issues, intensity, sensitivity, perfectionism, and the very real needs of visual-spatial learners.

IXL PERSONALISED LEARNING

[IXL | Maths and English Practice](#)

Great site for students with lots of maths problem solving questions and brain teasers.

MATHS FUN

<http://www.mathsisfun.com/>

This is a great site full of activities for kids who love maths. Topic areas include polygons, platonic solids, coordinates, logic puzzles and fractions.

MILLENNIUM KIDS

<http://www.millenniumkids.com.au/>

This is a site where young people encourage others to be active in the environment. The aim of the site is to develop local, regional and international partnerships which empower young people to explore, identify and address environmental issues through information exchange, networks and on-the-ground action.

NATIONAL ASSOCIATION FOR GIFTED CHILDREN (NAGC)

<https://www.nagc.org>

NAGC works to support those who enhance the growth and development of gifted and talented children through education.

NAGC: Preschool Resources

<http://www.nagc.org/resources-publications/resources-parents/young-bright-children>

NAGC: Common characteristics of gifted individuals

<http://www.nagc.org/resources-publications/resources/my-child-gifted/common-characteristics-gifted-individuals>

NAGC: PreSchool/Kindergarten Programs

<http://www.nagc.org/resources-publications/resources-parents/young-gifted-children/pre-school-and-kindergarten-programs>

National Association for Education of Young Children (NAEYC)

<https://www.naeyc.org/>

NIGHT OF THE NOTABLES

[VIC \(cbca.org.au\)](http://cbca.org.au)

Night of the Notables is an inclusive program for gifted and talented students. It has received an enthusiastic response. In it, many optimal features of gifted education (demanding research skills, longer time spans, deeper studies, wider research, flexible pacing, integrated study across the subjects, advanced communication skills, personal creativity) are featured. Night of the Notables serves and nurtures the autonomous learner.

OZ-GIFTED

[Australian Gifted Support Centre Services](#)

Oz-Gifted is a general discussion mailing list for teachers and parents of gifted children, and others interested in gifted education in Australia.

Email: enquiries@australiangiftedsupport.com

PREMIER'S READING CHALLENGE

[Premiers' Reading Challenge | Victorian Government \(www.vic.gov.au\)](#)

The Challenge encourages children and students to read a set number of books over the year and record their efforts online. Since the Challenge first began in 2005, more than 3.5 million students have read over 54 million books.

PUZZLES AND GAMES FOR THINKING

<http://www.brainquest.com/>

A site containing clever puzzles and games for downloading. Use many different thinking strategies.

QUESTACON

<http://www.questacon.edu.au>

The official site of the Questacon Science and Technology Centre is full of puzzles, games and illusions.

QUESTACON INVENTION SITE

[Questacon Invention Convention | Questacon - The National Science and Technology Centre](#)

Smart Moves is designed for students to find out about cutting edge careers in science, engineering and technology, discover some of the unbelievable science happening today (did you know they can make 'flatulence-free' baked beans?!), become an entrepreneur by coming up with business ideas in science, engineering and technology, catch up with other young Australian business people and cutting-edge researchers, think about future studies in science, engineering, technology and business, follow through on your ideas – just let us know. You can see a show, take part in a competition and/or have a go at the Invention Convention. Too many options! This website provides information and contacts for people and places involved in new ideas and business.

SCHOLASTIC AUSTRALIA

<http://scholastic.com.au>

Site with links to authors and author profiles, book lists for suggested reading material and kidzone with software.

Social Emotional Needs of Gifted (SENG). A great resource for parents.

<https://www.sengifted.org/>

SENG: Asynchronous Behaviours

<https://www.sengifted.org/post/asynchronous-development>

SENG: Misdiagnosis of the gifted.

<http://www.sengifted.org/programs/seng-misdiagnosis-initiative>

SENG: Misdiagnosis of Gifted Children: SEN video (14+ minutes)

<https://www.youtube.com/watch?v=9XN7IOteagI>

SENG: Overexcitability and the Gifted (OE)

<http://www.sengifted.org/archives/articles/overexcitability-and-the-gifted>

TEACHER RESOURCE

[Teaching Resources - Primary, F-2, Years 3-4, Years 5-6, EYLF, SEN, EAL \(twinkl.com.au\)](#)

Contains many links to lessons, activity and content for STEM subjects and specialist areas. Section on gifted education has good local and overseas links.

TERRIFIC SCIENTIFIC

<http://terrificscientific.com/club>

A British site that has Australian contacts. Terrific Scientific is a store and resource centre as well as running workshops focused on complex science topics during holidays. Topics include: medieval weapons and warfare, inventions, electronics and flight. On-line catalogue of science equipment and labs to build at home.

THE AUSTRALIAN ACADEMY OF SCIENCE: NOVA SCIENCE IN THE NEWS

[Academy school education programs | Australian Academy of Science](#)

Science by doing supports educators for years 7 to 10, to understand and value science by doing.

Primary connections, focuses on developing students' knowledge, understanding and skills in both science and literacy.

VIRTUAL CLASSROOM

[Virtual learning and conferencing \(education.vic.gov.au\)](http://education.vic.gov.au)

The Virtual Classroom has lots of cool activities and links to help students with their homework, school projects and just for fun.

VIRTUAL SCHOOL FOR THE GIFTED

<http://www.vsg.edu.au/>

The Virtual Skills Gateway (VSG) is an online school which specialises in providing enrichment courses to complement and extend the regular curriculum. The VSG works with schools and home schools to provide courses to challenge able students.

WE ARE TEACHERS

<https://www.weareteachers.com/teaching-gifted-students>

This website gives teachers 50 tips, tricks and ideas for teaching gifted students

WEB QUESTS

[WebQuest.Org: Home](http://www.webquest.org/)

WebQuests are inquiry-oriented activities in which some or all of the information that learners interact with comes from resources on the internet.

WORDPLAY

[Browse Educational Resources | Education.com](http://www.education.com)

A recreational program that focuses on literacy and thinking skills, through the Arts (particularly drama) and enables young people to showcase their talents through original performance. Holiday programs also available.

YOUNG AUTHORS WORKSHOP

[Young Authors' Workshop - Young Authors' Workshop \(youngauthorsworkshop.com\)](http://youngauthorsworkshop.com)

This is a fabulous site for students who love to write. The pages will help children to find

online sources for writing ideas, writing tips, interactive writing projects, places to discuss and ask for advice about writing from peers or published writers.

PROGRAMS AVAILABLE IN VICTORIA

CHIP PROGRAM GEELONG

<https://chipcentregeelong.com.au>

Children of High Intellectual Potential (CHIP) program in Geelong supports children, families, educators, and schools through identification, counselling, enrichment workshops and parent information sessions

COMMUNITY ENRICHMENT FOR GIFTED CHILDREN PROGRAM

<http://www.latrobe.edu.au/giftedchildren>

The Community Enrichment Program for Gifted Children is run by La Trobe University, Bendigo, in conjunction with the organisation, *Parents of Children with Special Abilities*, with the support of the local school systems. The program is held three times a year with workshops presented by academics from the University and experts from industry and community organisations, all whom have a passion for their topic. This program is an important University outreach to the community.

HIGH-ABILITY TOOLKIT

[Student Excellence Program \(education.vic.gov.au\)](http://education.vic.gov.au)

This program supports government schools by providing a learning environment to build teacher capability that will support and extend their high-ability students.

MELBOURNE YOUTH ORCHESTRAS (MYO)

[Melbourne Youth Orchestras \(myo.org.au\)](http://myo.org.au)

MYO offers a world of opportunity for students from 8 to 25 years of age. Through Saturday Music and Summer School, MYO offers an excellent experience in music education for future musicians, music educators, arts administrators and concert goers. They also offer professional development for teachers of music.

MONASH EDUCATION ENGINEERING

[Engineering Co-operative Education Program - Monash University](http://monash.edu.au/education/engineering)

Monash University Education offers schools the opportunity to have a final year Engineering student for eight sessions as an advisor and mentor. Engineering students are happy to negotiate an engineering project and work with students over the eight sessions.

SEAL PROGRAM

[SEAL Guidelines November 2007 \(education.vic.gov.au\)](http://education.vic.gov.au)

Some programs for particularly bright students amount to partial streaming. The Select Entry Accelerated Learning (SEAL) program allows gifted students to complete Years 7 to 10 in three years, and is offered at 36 government schools. Students may then choose to complete a wider range of VCE studies or graduate early.

VICTORIAN ASSOCIATION FOR GIFTED AND TALENTED CHILDREN (VAGTC)

[Victorian Association for Gifted and Talented Children | Advocating for Gifted and Talented Education in Victoria since 1978 \(vagtc.org.au\)](http://vagtc.org.au)

VAGTC is a parent and educator association committed to advocating for the identification and appropriate support, for the education and development of gifted potential.

MORE RESOURCES

Differentiated Programs for Primary and Secondary Schools

Eddie Braggett. Hawker Brownlow Education

These books outline practical and workable strategies for differentiating the curriculum for gifted students. They are a valuable resource in schools and can be used initiating, developing and maintaining programs to meet the needs of gifted students.

Educational Strategies for Gifted Children

Whitton, Diana (2002), Hawker Brownlow Education, Victoria

Exceptionally Gifted Children

Gross, Miraca (1993). Routledge, London

Examines the origin, development and school histories of 40 Australian children, the effects of their early school life on their educational and social development – how the normal school environment can affect exceptionally gifted children's self-esteem, self-concept, motivation, capacity to find and form friendships, and the children's own attitudes towards their unusual abilities and achievements.

Exceptionally Gifted Children (Second Edition)

Gross, Miraca (2004). Routledge Falmer: London

This second edition carries the stories of Miraca Gross's highly gifted young people up to the present day, including their adolescence and young adulthood. Further details of childhood development are given and the book reviews a wealth of international research on gifted children and appropriate provisions.

Giftedness In Early Childhood

Harrison, Cathie (2003). GERRIC, University of NSW

Outlines giftedness in early development. Provides information on identifying young gifted children with advice on responding to their specific needs. A chapter is dedicated to supporting parents and families of young gifted children.

Gifted Students in Primary Schools: Differentiating the Curriculum

Gross, Miraca.U.M, Bronwyn MacLeod, Diana Drummond & Caroline Merrick (2001.)

GERRIC, University of NSW offers practical assistance for primary teachers from developing curriculum to understanding characteristics and needs of gifted students. Includes units of work.

Gifted Students in Secondary Schools: Differentiating the Curriculum (2nd edition)

Gross, Miraca.U.M, Bronwyn MacLeod & Marilyn Pretorius (2001).

GERRIC, University of NSW offers practical assistance for secondary teachers from developing curriculum to understanding characteristics and needs of gifted students. Includes units of work.

Gifted Young Children

Louise Porter (1999) Allen & Unwin, N.S.W.

A comprehensive guide to identifying and working with young children with advanced development. Identify young children and how to challenge them without pushing them too hard. A reference for early childhood professionals and useful resource for parents of children who are or may be gifted.

Growing Up Gifted, 5th Edition

Barbara Clark (1997). Prentice Hall

Very useful and readable text that covers many aspects of providing for gifted students. Includes identification, creativity, school settings, differentiation and other issues that may arise. Has teaching strategies and ideas as well as theory.

GTCASA (1996) For Parents... The challenge of raising a gifted child

Gifted and Talented Children's Association of South Australia., 2nd edition

Contact GTCASA, Phone: 8373 8500

Habits of Mind: A Developmental Series

Arthur L.Costa & Bena Kallick (edn) (2000), Association for Supervision & Curriculum Development. Hawker Brownlow Education (Australia)

A series examining issues of thinking and strategies for encouraging intelligent behaviour in classrooms. Many practical ideas for identifying, teaching and programming for thinking as well as assessing and including explicit instruction for thinking skills. Readable - a series of four small books.

Handbook of Gifted Education

Nicholas Colangelo & Gary A. Davis (1992, 2nd edition). Allyn & Bacon, Boston

A comprehensive coverage of many aspects of gifted education – identification and definitions, programming models and options, issues for counselling and chapters on special topics such as girls' youth issues and so on.

Re-forming Gifted Education: Matching the Program to the Child

Karen B. Rogers (2002). Great Potential Press, Inc

This book outlines various types of gifted children, as well as options for school enrichment and acceleration. Karen reports the effectiveness for each option according to the research. From her years of experience consulting with schools, she shows parents and teachers practical ways to design ongoing programs that best meet the needs of bright children.

Teaching Gifted Kids in the Regular Classroom

Susan Winebrenner (1996). Free Spirit Press

Practical and full of suggestions for programming, planning and creating challenging classroom content for gifted students in mainstream classrooms.

The Gifted Enigma

Wilma Vialle and John Geake (Eds). Hawker Brownlow Education

This collection of articles, published over the last decade in the Australasian Journal of Gifted Education, from Australian authors and based on research in Australian schools, has some interesting and thought-provoking reading.

The Gifted Puzzle

Australian Association for the Education of the Gifted and Talented (AAEGT) Ltd (2004)

A Video/DVD for parent discussion. Topics include identification, choosing a school, isolation, networks/ support, underachievement and siblings.

Contact your state Association Resource Centre or AAEGT representative in your state.

Thinking, Feeling and Learning: Understanding the social and emotional needs of Gifted Students

1997 Department of Education and Children's Services (South Australia)

To be Gifted and Learning Disabled

S. Baum, St Owen & J Dixon. Creative Learning Press, Inc.

This book covers a wealth of background information in preparing teachers for addressing the needs of the gifted learning disabled. Identification, teaching and behaviour management strategies... case studies... programs... An interesting and inspiring read (Walsh 2005).

Underachievement syndrome: Causes and cures

Rimm, Sylvia (2001). Hawker Brownlow Education, Victoria

Understanding Giftedness: A guide to policy implementation

1996 Department of Education and Children's Services (South Australia)

Upside-Down Brilliance: The Visual Spatial Learner

Linda Kreger Silverman (2002). De Leon Publishing, Inc.

When Gifted Kids Don't Have All the Answers? How to Meet Their Social and Emotional Needs.

Jim Delisle and Judy Galbraith. Free Spirit Publishing

Readable and practical, this book offers teachers, coordinators, guidance counsellors, parents and other adults working with gifted children proven suggestions for encouraging social and emotional growth among gifted, talented and creative young people.

SUPPORT AND USEFUL CONTACTS

Department of Education and Training Regional Contacts

Each Regional Office of the Victorian Department of Education and Training has a nominated officer responsible for queries about gifted education.

Website: <http://www.det.vic.gov.au/det>

Bayside Young Active Minds Support Group

PO Box 2041

PARKDALE VIC 3195

Email: hirsts@melbpc.org.au

Maroondah Gifted Children's Parents' Association

PO Box 1279

CROYDON VIC

Phone : (03) 9725 0849

Parents Association for Children of Special Abilities Inc. (PACSA)

PO Box 2013

Mail Centre

BENDIGO VIC 3554

Phone: (03) 5475 2906 or (03) 5475 2392

Victorian Affiliated Network of Gifted Support Groups

PO Box 88

MALDON VIC 3463

Phone: (03) 5475 2392

Yarra Plenty Gifted Support Group

Contact: Pam Lyons

Phone: (03) 5475 2906

Email: ypgsg@yahoo.com

VICTORIAN BOOK SUPPLIERS

Great Potential Press, Australia

Great Potential Press, Australia is affiliated with Great Potential Press, US, and publish authors that are among the world's best in the field of high potential and giftedness.

PO Box 148 KERRIMUIR VIC 3129

Phone/Fax: (03) 9899 7964

Web: <http://www.greatpotentialpress.com.au>

Hawker Brownlow

Currently has a list of over 2500 titles which you can browse and download sample pages of. A supplier of innovative books which are cutting-edge, classroom focused and

embedded with thinking skills, problem solving, critical and creative thinking, leadership skills, practical multiple intelligence instruction, learning styles and ICT resources. Titles are sourced both locally and internationally, with an ever-increasing number of books written by Australian authors. The teacher resource books cover all key learning areas and are marketed to schools nationally from Prep to Year 10, including resources for gifted children.

Location:

1123A Nepean Hwy., HIGHETT VIC 3190

Phone: (03) 9555 1344

Phone toll free: 1800 334 603

Fax: 1800 150 445

Email: brown@hbe.com.au

Web: <http://hbe.com.au>

(Advanced Psychology Services 2022; Walsh 2005).

Appendix E: Interview Questions

INTERVIEW SCHEDULE

1. How long have you been teaching?
2. What area or grade level do you teach?

UNDERACHIEVEMENT

3. Does your school have a policy around underachievement?
4. In professional discussions, teachers will sometimes use the term 'underachieving' What do you think of when you hear the word underachieving?
5. Have you ever recognised an underachieving student who you have referred for further evaluation?
6. Have you had any training, either pre-service or in-service, in underachievement? Have you got an example of this?

GIFTEDNESS

7. Does your school have a gifted policy?
8. 'Gifted' is a term sometimes used in educational discussions. What do you think of when you hear the word gifted?
9. Have you ever taught a student who you consider may be gifted?

If yes,

- a. What made you think this?
- b. Please tell me what actions, if any, you took as a result of deciding that the student might be gifted.
10. Do you think there is a need to have gifted children formally or informally identified?

(Interview schedule continued)

11. Have you ever recognised a student who you thought may be gifted and referred for further evaluation?
12. Have you had any training, either pre-service or in-service, in gifted education? Have you got an example of this?
13. Would you like to make any further comments on giftedness and underachievement?

TOOLKIT

14. What did you think of the toolkit?
15. Were there any resources in the toolkit that you felt were more beneficial? If so, which one? And why?
16. Do you think the toolkit enabled you to identify an underachieving gifted student? If so, please explain.
17. Are there any adaptations to the toolkit that you think would make it more viable?
18. Would you use the toolkit in future? If so, why, or why not?
19. Would you like to make any further comments on the toolkit or its use?
20. Do you have any of your own resources that would help you identify underachievement or giftedness?
21. As a result of using the toolkit, have your ideas on underachievement changed? If so, how?
22. And, as a result of using the toolkit has your ideas changed on giftedness? If so, how?

APPENDIX F: Changed response after intervention

Participants changed response after the intervention

Pre/Post-Survey Questions		Changed response	
Teacher	Question	Pre-survey	Post-survey
Alan	29. Can have learning disabilities	True	False
	30. Exhibit special skills, unusual for age	True	True/False
	33. Have limited areas of interests	False	True/False
	35. Find school boring	True	False
Betty	9. Are helpful to teachers and others	True	True/False
	13. Stay on task for extended periods	True	False
	14. Prefers to be alone and do independent tasks	True	True/False
	18. Copy work accurately	False	True
	19. Questions the teacher and rules	True	False
	20. Are good memorises	True	True/False
	23. Are sensitive to other's needs/current events	True	False
	24. Learn to read early	True	False
	27. Are motivated by rewards	True	False
	35. Find school boring	True	False
	36. Like to take risks and apply themselves	True	False
	39. Like to be challenged	True	False
	40. Have complex thoughts and ideas	True	False
Chris	6. Work well in groups	False	True
	8. Enjoy tests	False	True
	9. Are helpful to teachers and other students	False	True
	14. Prefers to be alone and do independent tasks	False	True/False
	17. Are the first to answer questions	False	True
	19. Questions teacher and rules	False	True/False
	20. Are good memorisers	False	True
	21. Enjoy physical education classes	False	True/False
	22. Have good penmanship	False	True/False
	23. Are sensitive to other's needs/current events	False	True/False
	26. Enjoy being with peers	False	True
	28. Have no behaviour problems	True	False
	31. Exhibit daydreaming behaviour	False	True/False
34. Prefer structure, organisation & consistency	False	True	
40. Have complex thoughts and ideas	True	True/False	

Pre/Post-survey responses		Changed response	
Teacher	Questions	Pre-survey	Post-survey
Dana	1. Get excellent grades in all major subjects	False	True/False
	4. Read well about a number of subjects	False	True/False
	5. Are highly critical of themselves	False	True
	7. Have wild, silly ideas	False	True/False
	11. Constantly asks unusual questions	False	True/False
	12. Can exhibit low self-esteem	False	True
	13. Stay on task for extended periods	False	True/False
	15. Have great sense of humour	False	True/False
	16. Work Hard	False	True/False
	19. Questions teacher and rules	False	True
	20. Are good memorisers	False	True
	23. Are sensitive to other's needs/current events	False	True/False
	24. Learn to read early	False	True/False
	26. Enjoy being with peers	False	True/False
	29. Can have learning disabilities	False	True
	30. Exhibit special skills, unusual for age	False	True
	31. Exhibit daydreaming behaviour	False	True/False
	32. Find solutions in different ways	False	True/False
	33. Have limited areas of interests	False	True/False
	34. Prefer structure, organisation & consistency	False	True/False
35. Find school boring	False	True	
36. like to take risks and apply themselves	False	True/False	
37. Can be disruptive in class	False	True	
39. Like to be challenged	False	True/False	
40. Have complex thoughts and ideas	False	True	
Eric	2. Have high verbal ability & discusses in detail	True	False
	5. Are highly critical of themselves	False	True
	8. Enjoy tests	False	True
	9. Are helpful to teachers and other students	True	False
	10. Have good attendance	True	True/False
	13. Stay on tasks for extended periods	True/False	False
	17. Are the first to answer questions	True/False	False
	18. Copy work accurately	True/False	False
	20. Are good memorisers	True/False	True
	21. Enjoy physical education classes	True/False	False
	22. Have good penmanship	True/False	False

	23. Are sensitive to other's needs/current events	True	False
	26. Enjoy being with peers	True/False	False
	27. Are motivated by rewards	True/False	False
	36. Like to take risks and apply themselves	True/False	False
	37. Can be disruptive in class	True/False	True
	40. Have complex thoughts and ideas	True/False	True
Finn			
	1. Get excellent grades in all major subjects	False	True/False
	3. Usually completes all classwork/homework	False	True/False
	5. Are highly critical of themselves	True	True/False
	6. Work well in groups	False	True/False
	7. Have wild, silly ideas	False	True/False
	8. Enjoy tests	False	True/False
	9. Are helpful to teachers and other students	False	True/False
	10. Have good attendance	False	True/False
	11. Constantly asks questions that are unusual	False	True/False
	12. Can exhibit low self-esteem	True	True/False
	13. Stay on task for extended periods	False	True/False
	14. Prefers to be alone and do independent tasks	True	True/False
	17. Are the first to answer questions	False	True/False
	18. Copy work accurately	False	True/False
	27. Are motivated by rewards	False	True/False
	29. Can have learning disabilities	True	True/False
	31. Exhibit daydreaming behaviour	True	True/False
	32. Find solutions in different ways	True	True/False
	34. Prefer structure, organisation & consistency	False	True/False
	35. Find school boring	True	True/False
	36. Like to take risks and apply themselves	False	True/False
	37. Can be disruptive in class	True	True/False
	38. Enjoy repetitive tasks	False	True/False
Grace			
	1. Get excellent grades in all major subjects	True	False
	3. Usually completes all classwork/homework	True	True/False
	9. Are helpful to teachers and other students	False	True
	11. Constantly asks questions that are unusual	True	False
	12. Can exhibit low self-esteem	False	True/False
	15. Have great sense of humour	False	True/False
	16. Work hard	True	True/False
	20. Are good memorisers	True	True/False

	22. Have good penmanship	True	True/False
	25. Enjoy school	True/False	True
	26. Enjoy being with peers	True	True/False
	27. Are motivated by rewards	False	False
	28. Have no behaviour problems	True	True/False
	29. Can have learning disabilities	False	True
	31. Exhibit daydreaming behaviour	False	True/False
	37. Can be disruptive in class	False	True/False
	38. Enjoy repetitive tasks	False	True/False
Jayne			
	19. Questions teacher and rules	True	False
	27. Are motivated by rewards	False	True
	33. Have limited areas of interests	True	False
	35. Find school boring	True	False
Kerryn			
	6. Work well in groups	False	True
	8. Enjoy tests	False	True
	11. Constantly asks questions that are unusual	True	False
	14. Prefers to be alone and do independent tasks	False	True
	21. Enjoy physical education classes	False	True
	23. Are sensitive to other's needs/current events	True/False	True
	24. Learn to read early	True	True/False
	26. Enjoy being with peers	True/False	True
	28. Have no behaviour problems	True/False	True
	29. Can have learning disabilities	True/False	True
	30. Exhibit special skills, unusual for age	True/False	True
	37. Can be disruptive in class	True	False
	40. Have complex thoughts and ideas	False	True
Luke			
	1. Get excellent grades in all major subjects	True/False	False
	2. Have high verbal ability & discusses in detail	False	True
	3. Usually completes all classwork/homework	True/False	False
	5. Are highly critical of themselves	True	False
	7. Have wild, silly ideas	True/False	False
	10. Have good attendance	True/False	True
	14. Prefers to be alone and do independent tasks	True	False
	16. Work hard	True/False	False
	19. Questions teacher and rules	True	True/False
	21. Enjoy physical education classes	False	True

	22. Have good penmanship	True	False
	23. Are sensitive to other's needs/current events	True/False	True
	25. Enjoy school	True	True/False
	26. Enjoy being with peers	True/False	True
	31. Exhibit daydreaming behaviour	True/False	True
	35. Find school boring	True	True/False
May			
	3. Usually completes all classwork/homework	True	False
	4. Read well about a number of subjects	True	False
	8. Enjoy tests	True	False
	9. Are helpful to teachers and other students	True	False
	10. Have good attendance	True/False	False
	12. Can exhibit low self-esteem	False	True
	13. Stay on task for extended periods	True	False
	14. Prefers to be alone and do independent tasks	True	False
	16. Work hard	True	False
	17. Are the first to answer questions	True	False
	18. Copy work accurately	True	False
	19. Questions teacher and rules	True	False
	20. Are good memorisers	True	False
	22. Have good penmanship	True	False
	23. Are sensitive to other's needs/current events	True/False	False
	24. Learn to read early	True	True/False
	25. Enjoy school	True	False
	26. Enjoy being with peers	True	False
	27. Are motivated by rewards	True/False	False
	28. Have no behaviour problems	True	False
	29. Can have learning disabilities	False	True
	31. Exhibit daydreaming behaviour	True	True/False
	32. Find solutions in different ways	True	True/False
	33. Have limited areas of interests	True	True/False
	34. Prefer structure, organisation & consistency	True	False
	35. Find school boring	True	True/False
	36. Like to take risks and apply themselves	True	False
	37. Can be disruptive in class	False	True

APPENDIX G:

Victorian Government resource results

Student & Year	Section 1 & 2	Questions and Responses														Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	
D11 Grade 2	Yes	✓	✓	✓		✓			✓	✓						6/14
	No						✓	✓			✓	✓	✓	✓		7/14
	Unsure				✓											1/14
	Yes	✓			✓	✓	✓	✓			✓					6/10
	No		✓							✓	✓					3/10
	Unsure			✓												1/10
Total Yes = 12/24																
D18 Grade 2	Yes	✓	✓	✓		✓			✓	✓						6/14
	No							✓			✓	✓	✓	✓		6/14
	Unsure				✓		✓									2/14
	Yes	✓		✓	✓		✓	✓			✓					6/10
	No		✓			✓			✓							3/10
	Unsure									✓						1/10
Total Yes = 12/24																
D25 Grade 2	Yes	✓	✓			✓	✓	✓			✓	✓	✓	✓	✓	10/14
	No				✓											1/14
	Unsure			✓					✓	✓						3/14
	Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					10/10
	No															0/10
	Unsure															0/10
Total Yes = 20/24																
E1 Year 9	Yes	✓	✓	✓		✓	✓	✓	✓	✓			✓	✓		10/14
	No															0/14
	Unsure				✓						✓	✓			✓	4/14
	Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					10/10
	No															0/10
	Unsure															0/10
Total Yes = 20/24																
E2 Year 9	Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		13/14
	No														✓	1/14
	Unsure															0/14
	Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					10/10
	No															0/10
	Unsure															0/10
Total Yes = 23/24																
E3	Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		13/14
	No														✓	1/14

Year 9	Unsure															0/14
	Yes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					10/10
	No															0/10
	Unsure															0/10
Total Yes = 23/24																
G10 Grade 4	Yes	✓				✓		✓		✓						4/14
	No			✓			✓				✓			✓	✓	5/14
	Unsure		✓		✓				✓			✓	✓			5/14
	Yes	✓			✓	✓	✓	✓	✓		✓					7/10
	No		✓	✓							✓					3/10
	Unsure															0/10
Total Yes = 11/24																
J13 Grade 6	Yes	✓	✓		✓	✓	✓	✓	✓	✓						8/14
	No			✓							✓	✓	✓	✓	✓	6/14
	Unsure															0/14
	Yes	✓	✓	✓	✓	✓	✓	✓		✓						8/10
	No									✓		✓				2/10
	Unsure															0/10
Total Yes = 16/24																
J22 Grade 6	Yes	✓	✓	✓	✓	✓	✓	✓				✓				8/14
	No								✓	✓	✓		✓	✓	✓	6/14
	Unsure															0/14
	Yes	✓			✓	✓	✓	✓	✓	✓	✓					9/10
	No		✓													1/10
	Unsure															0/10
Total Yes = 17/24																
J27 Grade 6	Yes	✓	✓		✓	✓	✓	✓		✓			✓			8/14
	No			✓					✓		✓	✓		✓	✓	6/14
	Unsure															0/14
	Yes				✓	✓	✓	✓	✓	✓	✓					7/10
	No	✓	✓	✓												3/10
	Unsure															0/10
Total Yes = 15/24																
K1 Grade 3	Yes	✓	✓	✓		✓	✓				✓	✓	✓	✓		9/14
	No															0/14
	Unsure				✓			✓	✓	✓					✓	5/14
	Yes	✓	✓	✓	✓	✓	✓	✓	✓							8/10
	No										✓	✓				2/10
	Unsure															0/10
Total Yes = 17/24																
L1 Grade 3	Yes	✓	✓	✓	✓	✓	✓	✓		✓			✓	✓		10/14
	No								✓		✓				✓	3/14
	Unsure											✓				1/14
	Yes	✓			✓	✓		✓	✓		✓	✓				7/10

	No		✓			✓			✓							3/10
	Unsure															0/10
Total Yes = 17/24																
M1 Grade 1	Yes	✓	✓	✓		✓	✓				✓				✓	7/14
	No							✓	✓	✓			✓	✓		5/14
	Unsure				✓							✓				2/14
	Yes	✓	✓	✓		✓	✓			✓	✓					7/10
	No							✓	✓							2/10
	Unsure				✓											1/10
Total Yes = 14/24																
M11 Grade 1	Yes	✓	✓		✓		✓	✓			✓					6/14
	No					✓			✓	✓			✓	✓		5/14
	Unsure			✓								✓	✓			3/14
	Yes					✓	✓	✓		✓	✓					5/10
	No	✓	✓	✓	✓				✓							5/10
	Unsure															0/10
Total Yes = 11/24																
<p><i>Note # Student letter & number = The letter represents the participant and the number Represents the student on the classroom roll.</i></p>																

