Chapter 5

CONCLUSIONS AND RECOMMENDATIONS

5.1. INTRODUCTION

With rapid expansion of the transnational education market, more and more universities join the ranks of transnational education providers, or expand their transnational education offerings. This study has developed a conceptual model for transnational computing education programs using student perceptions as a framework. This model allows academics involved in teaching, managing, and developing such programs to gain insights into program effectiveness as perceived by transnational students.

This chapter begins with a summary of my thesis in Section 5.2, with each chapter summarised. Section 5.3 addresses the major findings of my study, followed by Section 5.4 that describes three major contributions of my study. The constraints and limitations of my study are summarised in Section 5.5, whereas Section 5.6 outlines recommendations for future research related to my study.

5.2. OVERVIEW OF THE THESIS

The first chapter of this thesis provides a general background to the evolution of distance and transnational education, in addition to the aims and significance of this study. The overview of distance and transnational education (Section 1.1) focuses on tertiary education, its rapid expansion, and the need for educational providers to offer good quality programs to attract students. I highlight the need for universities to acknowledge, and respond to, student needs, even more so since the competition for students in the transnational education arena has become more intense. I also underline the need for investigation of quality and effectiveness of transnational programs in addition to their technological aspects. I present a brief introduction to the effectiveness of distance/transnational education and identify the research problem and hypotheses (Section 1.2), followed by an outline of

methods and significance of this study (Sections 1.3 & 1.4). The aims of my study are: (1) to investigate attributes that may determine the effectiveness of distance education programs in general, and transnational computing programs in particular; (2) to use these attributes to develop a conceptual model for effective transnational programs; and, (3) to apply the model to selected transnational computing programs for validation. Finally, I point out that this study is significant in three ways. First, in terms of transnational education, this study expands on current and past transnational education research. Second, in terms of contributing to knowledge regarding effectiveness of transnational education programs, it incorporates student perspective into the program effectiveness framework. Third, by determining specific attributes of effective transnational programs, it provides a model to assist in making informed decisions in the design, development, and review of transnational programs.

Chapter 2 provides a review of literature in five areas related to the study: (1) the evolution of distance education; (2) the impact of technology on distance education; (3) the transnational education model; (4) requirements of computing education at a distance; and, (5) distance education effectiveness. The major section concerning the evolution of distance education (Section 2.2) discusses the history and transformation of distance education to create a framework for the sequence of events that have contributed to the distance education movements and shaped modern post-secondary distance education programs. Section 2.3 explores the fundamental role that technology has played in the evolution and growth of distance education. Section 2.4 focuses on one type of distance education, which is the subject of this research study – transnational education. It discusses the definition of transnational education and its subtype: the Australian transnational education. The typology of transnational education is also reviewed, as are factors determining demand and supply, and characteristics of typical programs. The section concludes with a discussion on the role that face-to-face interaction plays in transnational programs. The next section (Section 2.5) highlights the particular demands of teaching computing programs in a transnational setting: firstly, the need to update study material in a rapidly changing discipline; secondly, the

requirement to teach subjects involving theory, higher analytical reasoning, and problem solving; and finally, the demand to accommodate hardware and software needs of the students. Section 2.6 links distance education with student satisfaction and effectiveness of distance education programs, especially in terms of tertiary education. Finally, as this research study involved investigation of critical success factors in transnational education programs, Section 2.7 reviews in detail the factors that define effectiveness of those programs; it examines attributes of distance education students, instructors, technology, program design, and organisational support that contribute to program effectiveness.

Chapter 3 describes the approach that I used to develop and validate the multidimensional model for transnational education programs; it describes the research design, the population and sample, instrumentation, data collection, and data analyses that were used in the study. Section 3.2 outlines methods used in the development and validation of the multidimensional model. The development of the model was a two-step process. Firstly, success attributes of distance education programs, with emphasis on transnational programs, were identified. Secondly, these attributes were grouped into broader categories – dimensions; this collection of dimensions formed a model of effective transnational programs. Two methods of data collection (a survey and group interviews), and multiple data sources (three transnational computing programs) were used to validate the model; Section 3.3 provides a description of those data sources. Sections 3.4 & 3.5 describe the means by which the data was collected, as well as the ethical considerations associated with data collection. Finally, Section 3.6 describes the methods used for the analysis of data.

Chapter 4 presents the conclusion to the development and validation of the multidimensional model. First, Section 4.2 details the dimensions of the proposed model including: *Student*, *Instructor and learning environment*, *Instructor – Technology and support*, *Curriculum and instruction design*, *Interaction*, *Evaluation and assessment*, *Technology*, and *Program management and organisational support*. Second, Section 4.3 describes the three transnational

computing education programs used for validation of the model; the programs are offered by Australian universities to students in Hong Kong. Third, Sections 4.4 & 4.5 present the results of model validation through the survey and group interviews with students. Finally, following validation, the refined version of the model is presented in Section 4.6; the refinement involved the introduction of a new dimension, *Pre-enrolment considerations*, removal of least important attributes, and ordering of attributes within dimensions in terms of importance. Chapter 4 also provides responses to the research hypotheses tested in this study.

5.3. MAJOR FINDINGS

This research study had three goals. First, I set out to identify from literature success attributes of distance education programs. Second, based on the identified attributes, I developed a model for effective distance education programs (with emphasis on transnational programs). Finally, I validated the model against three transnational programs, and refined the original model. The following hypotheses guided the analysis of data:

1. Critical success attributes (of effective distance education programs) in each dimension will be evident in each targeted transnational program.

2. Some attributes will be regarded as more important to the success of transnational programs than others.

3. Additional attributes, not included in the current dimensional model, will be identified as critical to the effectiveness of transnational programs.

4. In each of the targeted programs, attributes regarded as important with respect to University instructor, will be also regarded as important with respect to local instructor.

5. For each of the targeted programs, there will be no significant difference in the level of student satisfaction with the University instructor and the local instructor.

6. There will be no significant difference in the level of student satisfaction with transnational programs offered by the same University.

7. There will be no significant difference in the level of student satisfaction with transnational programs operated by the same offshore provider.

8. Each of the targeted transnational programs will be perceived by its students as effective.

9. Transnational programs based on face-to-face delivery mode will be preferred by students to programs delivered fully online.

Three transnational computing programs, which are offered in Hong Kong by Australian universities, in co-operation with Hong Kong partner institutions, participated in the evaluation of the multidimensional model. Data was collected through a survey administered to approximately three hundred students (two hundred and fifty nine useable surveys were returned), and through group interviews with students (forty four students took part in six group interviews).

The following sections describe the major findings stemming from the development and validation of the multidimensional model including responses to the hypotheses tested in this study.

5.3.1. Investigation of student perceptions of the evaluated transnational programs

The transnational programs participating in this study were examined in terms of perceived student satisfaction with several aspects of the program, including: instructors, technology, program management and coordination, and overall program effectiveness. In addition, students' attitude towards the current mode of program provision (predominantly face-to-face) was also assessed.

Satisfaction with instructors in the evaluated programs was high, but it did not apply uniformly to both University and local instructors. On the contrary, there were significant differences in the levels of satisfaction with the two types of instructors in each of the programs, as confirmed by the conclusion to Hypothesis (5):

> For each of the targeted programs, there will be no significant difference in the level of student satisfaction with the University instructor and the local instructor.

This hypothesis was not supported. Findings in two out of three evaluated programs did not support the hypothesis in terms of overall satisfaction with instructors. Students in those programs reported a significantly higher level of overall satisfaction with the University instructors. They were also significantly more satisfied with most individual aspects of University instructors' performance including teaching ability, and organisation and preparation for classes. On the other hand, students in the remaining program were overall more satisfied with local instructors, but not significantly. They were also more satisfied with the local instructors with respect to all individual aspects; significant differences were found regarding instructors' organisation and preparation for classes, dedication to students and teaching, and telephone/email accessibility outside of classes.

Slow feedback on assessment tasks emerged as a major problem in all evaluated programs. Students identified the tardiness with which tests and written assignments were marked and returned as the least satisfactory aspect associated with instructors and instruction. In addition, it was determined that electronic media were not sufficiently used for assignment submission and feedback.

Inadequate access to the university library and other student resources was identified as another major shortcoming of the programs. Students' dissatisfaction with their ability to access vital study resources was pronounced in all three evaluated programs.

Technology used in the programs was highly regarded as useful and easy to use; satisfaction with the overall usefulness of program Web sites was also high. On the other hand, the quality of the available technical support was found to be lacking.

Programs offered by the same University lacked consistency in the levels of student satisfaction with the programs, as confirmed by the conclusion to Hypothesis (6):

> There will be no significant difference in the level of student satisfaction with transnational programs offered by the same University.

To test this hypothesis, data on student satisfaction with all aspects of the program was analysed for two programs offered by the same University, but in co-operation with different offshore partners. This hypothesis was not supported; a comparison of the average student satisfaction scores between the programs produced a significant difference.

Likewise, programs supported by the same offshore partner institution lacked uniformity with respect to student satisfaction with the programs; this was confirmed by the conclusion to Hypothesis (7):

> There will be no significant difference in the level of student satisfaction with transnational programs operated by the same offshore provider.

To test this hypothesis, student satisfaction data was analysed for two transnational programs operated by the same offshore provider, but offered by different universities. This hypothesis was not supported; a significant difference was reported as a result of a comparison of average student satisfaction scores between the programs.

The evaluated transnational programs were not perceived by their students as effective. Program effectiveness was measured in two ways: one, students deemed their current program effective/non-effective; and two, students stated if they

would be willing to participate in this type of program (that is, transnational) in the future. The collected responses were used to test Hypothesis (8):

> Each of the targeted transnational programs will be perceived by its students as effective.

This hypothesis was not supported. Only students in one program deemed it effective, and were also willing to participate in this type of program in the future. Although students in another program considered it effective, majority of those students would not enroll in a similar type of program in the future. The third program was regarded as ineffective in both ways. Consequently, the hypothesis was not supported.

Although not effective, all three programs were still regarded worthwhile. A great majority of students in each of the three programs regarded them worthwhile citing the following reasons: the opportunity to obtain a University degree while working full time; flexible program structure; favourable entry requirements; competitive program fees; and, a relatively short duration of the program.

The present face-to-face delivery mode of the programs was found to be preferable to a proposed fully online provision. Students' preference for delivery mode was tested through Hypothesis (9):

> Transnational programs based on face-to-face delivery mode will be preferred by students to programs delivered fully online.

This hypothesis was confirmed. Students strongly opposed fully online provision of transnational programs, and were adamant about the importance of face-to-face contact with both lecturers and fellow students. They cited face-to-face communication as superior in offering instant feedback, affording easier communication with fellow students and instructors, being better suited to the resolution of study problems, and giving better motivation to study. Some students opined that face-to-face communication was more suitable for Hong Kong students because of Hong Kong people's traditional attitudes towards education. The Internet was acknowledged as a useful means for provision of

course material and an additional way for communication with instructors and fellow students.

5.3.2. Development and validation of a multidimensional model for transnational computing education programs

The conceptual model for transnational education programs that I developed in this study was applied for validation to three transnational computing programs. The aims of the validation were to determine: (1) how the multiple dimensions of the model were apparent in those programs; (2) if some of the individual attributes within each dimension were more important to students than others; and (3), if any additional attributes or dimensions need to be incorporated in the model.

All the attributes comprising the dimensions of the model were acknowledged by the evaluating students as important to the effectiveness of transnational programs; this was confirmed by the conclusion to Hypothesis (1):

> Critical success attributes (of effective distance education programs) in each
> dimension will be evident in each targeted transnational program.

This hypothesis was supported. The evaluation confirmed the inclusion of all the attributes in the existing dimensions; every attribute was acknowledged as at least 'somewhat important'.

In every dimension of the model, some attributes were deemed as more important to the effectiveness of a program than others; this was evidenced by the conclusion to Hypothesis (2):

> Some attributes will be regarded as more important to the success of
> transnational programs than others.

This hypothesis was confirmed. The transnational students, irrespective of their program, agreed on the attributes that they considered most important to the effectiveness of transnational programs; the extent of agreement was substantial. As a consequence of the ranking of attributes, the model was refined to order

attributes within dimensions in terms of their perceived importance, and exclude attributes uniformly considered as least important.

Additional attributes were identified throughout the course of model validation; their discovery was aided by Hypothesis (3):

Additional attributes, not included in the current dimensional model, will be identified as critical to the effectiveness of transnational programs.

This hypothesis was supported. Three additional attributes were identified as critical to program effectiveness: program cost, program duration, and extent of recognition for prior qualifications. Consequently, the model was refined through the introduction of a new dimension, *Pre-enrolment considerations*, to accommodate the newly identified attributes.

Students had the same expectations with respect to University instructors and local instructors, as evidenced by the conclusion to Hypothesis (4):

In each of the targeted programs, attributes regarded as important with respect to University instructor, will be also regarded as important with respect to local instructor.

This hypothesis was also supported. Students in each of the evaluated programs nominated the same critical success attributes for University instructors and local instructors. Instructor attributes perceived as the most influential include appreciation of course requirements and students' needs, and preparedness and organisation.

5.4. CONTRIBUTIONS OF MY STUDY

My study offers contributions in three areas: (1) transnational education in general; (2) effectiveness of transnational education programs; and, (3) design, development, and review of transnational programs. First, in terms of transnational education, this study supports the widely held notion (Chen, 1997; Debowski, 2003; Emil, 2001; Evans & Tregenza, 2002; Herrmann et al., 2001; Knipe, 2002; Marold et al., 2000; Marold & Haga, 2004; Tomasic, 2002; Ziguras,

2000; Ziguras, 2002) that face-to-face interaction is a noteworthy factor in effective transnational learning. This study also contributes to the debate on the reportedly increasing economic rationale of transnational education (De Vita & Case, 2003; Feast & Bretag, 2005; Marginson, 2004a, McBurnie & Ziguras, 2003). While institutions are said to be *motivated as much by profits as by teaching and learning objectives* (Feast & Bretag, 2005, p.64), this study suggests that the economic rationale may have an effect on students; they seem to regard competitive program fees, relatively short program duration, and recognition of prior qualifications resulting in generous subject exemptions as just as important as educational objectives.

Second, my study contributes in three ways towards knowledge about effectiveness of transnational education programs: (1), it responds to the calls for research into quality and effectiveness of distance education programs including transnational programs (Bates, 2000; Marginson, 2002; Moore & Kearsley, 2005; Nasseh, 1997); (2), it addresses the need for a holistic approach to the issue of effectiveness (Dhanarajan, 1999; Phipps & Merisotis, 1999; Wenger, 1998); and (3), it brings in the much needed and called for student perspective into the debate (Carter, 2001; Chapman & Pyvis, 2005; Chapman & Pyvis, 2006). The model for effective transnational programs that I reported in this study was developed with the notion in mind that as the ultimate clients of an education program, students should participate in defining what constitutes its effectiveness. The model offers an insight into learners' perceptions of their educational experience, by providing a detailed account of the wide range of factors that might have influence on those perceptions. Given the information contained herein, it is evident that to improve and sustain transnational programs in the future, it is essential for universities to gain an understanding of the learners' perspective: an understanding that transcends attendance records and academic achievements.

Third, in terms of assisting in the design, development, and review of transnational programs, this study could be pertinent to staff involved in those programs, as well as to university administrators. For staff, it could provide a

platform for reflection on what is 'right' or 'wrong' with a program, and which practices are effective or non-effective. Understanding of how the learning experience discourages or frustrates learners might enable staff to consider and implement constructive changes. For instance, the perceived importance of timely feedback on assignments, and the perceived failure of the programs to deliver it, identifies one aspect of the programs evaluated in this study that calls for attention.

For university administrators, this study could provide assistance in reviewing the quality and consistency of their transnational offerings. For instance, it has been argued that transnational programs should be of equivalent standard to the same programs offered by the university at home (Biggs, 2001; Hyam, 2003; Van Damme, 2001), and various university quality policies include that requirement. Yet, this study revealed significant differences between perceived performance of university and local lecturers in the evaluated programs, which might undermine the requirement of equivalent program standard; this is one issue for university administrators to consider. Likewise, university policies and, in some instances, dedicated university units aim to ensure that all transnational education programs offered under the university are delivering a sound education consistent and compliant with well defined standards (Hentea et al., 2003). Yet, this study revealed significant differences between perceived satisfaction with two programs offered by the same university, potentially challenging the requirement of intra-institutional consistency of transnational programs; this is another issue for the university administrators to address.

5.5. CONSTRAINTS AND LIMITATIONS

As with any research study, there is a possibility of flaws in design, data, and interpretation. In my study, one consideration that needs to be taken into account is the fact that the study was designed to investigate Australian transnational education that is, one including face-to-face delivery. Consequently, the

generalisability of the study results with respect to other types of transnational education would be limited.

Regarding the applicability of the results of this study to Australian transnational education, the sampling of data from programs offered only in Hong Kong does not lend itself to cross-validation of the model against different educational contexts; the validation is constrained by the dependence on the milieu in which the research was conducted, providing only limited generalisability of the model with respect to programs offered in other countries.

5.6. RECOMMENDATIONS FOR FURTHER RESEARCH

Research into effectiveness of transnational education is still in its initial stages. This study is distinctive because it contributes to the overall body of knowledge related to transnational education, to studies of higher education, and to research of effectiveness in a developing area of transnational education. However, further studies related to these three areas need to be continued.

A larger multinational sample would be desirable to expand upon the generalisability of what I have reported in this initial development and validation of the multidimensional model for transnational programs. A study of transnational programs offered by universities from countries other than Australia, and programs offered in destinations other than Hong Kong, would be advantageous by introducing larger variation in student perceptions; this could also assist in determining any cultural influences.

In addition, a study differentiating between undergraduate and postgraduate programs might illuminate the differences in the perceptions of students seeking their first degree as opposed to students seeking further university qualifications. There are likely to be differences between these two types of students and what they consider to be important attributes of transnational programs.

Further research is needed to confirm that the multiple dimensions of the model are not a collection of separate entities, but parts of an integrated system. The interactions between the dimensions and the extent to which they impact on each other will have to be examined. This could assist distance education providers planning new programs, or considering changes to existing programs, in determining the impact of their decisions.

Likewise, an additional study could be carried out to explore any associations between students' satisfaction with various aspects of transnational programs and their perceptions of the importance of those aspects to program effectiveness. For instance, this study found that students in all evaluated programs were most dissatisfied with the time taken to mark their assignments and provide feedback. At the same time, students perceived timely feedback on assignments and project as the most important aspect of the *Interaction* dimension; did they regard it important because it was lacking?

Finally, the validation of the model was only conducted on data obtained from transnational students. An expanded study could be conducted using the same analyses on data obtained from University and local instructors. Such a study would enable examination of the similarities and differences in perceptions of program effectiveness between the various participants of the transnational context.

5.7. CONCLUDING REMARKS

Research on the effectiveness of transnational education faces the dilemma that the educational context is not homogenous, as it involves different types of educational providers, students, and partner institutions across many countries and, it includes a variety of program delivery models. In addition, the educational context is constantly evolving due to the introduction of new technologies and, resulting from it, the introduction of new ways of teaching and learning. My study provides support for investigating effectiveness of transnational programs in that,

irrespective of how the educational context may change in the future, the fundamental factors that impact learning and success have been identified by 'insiders and experts': the transnational students themselves.