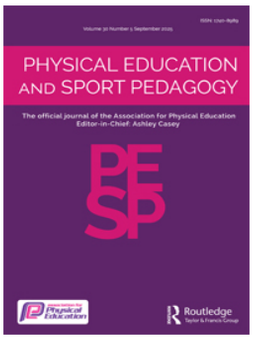
# *Exploring practitioner inquiry among health and physical education teachers: insights from teachers' perspectives*



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# Exploring practitioner inquiry among health and physical education teachers: insights from teachers' perspectives

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**ABSTRACT**

*Introduction*: Existing research suggests that practitioner inquiry (PI) can positively influence teachers' professional learning. Within the context of Health and Physical Education (HPE), however, we know little about the influence of PI on HPE teachers and their students, and HPE colleagues. *Aim*: This study responds to the research question: in what ways do HPE teachers believe that PI influences their teaching practices, their students and their HPE colleagues? *Context and participants:* This study presents a case study of a year-long, government-funded teacher professional learning programme called Teaching Excellence Program (TEP) offered by the Victorian Academy of Teaching and Leadership. The TEP is intended to advance teacher professional knowledge in a range of ways, including through individual and collaborative PIs. This paper examines the outcomes that ensued from the teachers' individual and collaborative PIs. The study involved seven Australian HPE teachers with varying levels of experience (6–30 years). We employed an exploratory, multi-method case study approach, and data consisted of interview transcript, participant-designed cartoons, and artefacts (e.g. framing a problem of practice and action planning documentation). *Findings:* Within the broader context of the TEP, PI was identified as particularly engaging for the participating HPE teachers. The HPE teachers believed that engaging in PI: (a) enhanced their own teaching practices; (b) therefore improved students' engagement; and in some cases (c) influenced HPE colleagues' teaching practice. *Implications:* This study underscores the potential influence that PI can have on HPE teachers when scaffolded and sustained support is available and accessed. Furthermore, this study highlights the significance of adopting the concept of *inquiry as stance*, emphasizing the role of teachers as researchers. Positioned as teacher-researchers, they generate localized knowledge, reimagine and theorize their own and potentially others' practice, and critically engage with the theories and research of others.

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## Introduction

Practitioner inquiry (PI) is a multifaceted approach to professional learning that includes, for example, action research, practitioner research, self-study, and participatory action research (Cochran-Smith and Lytle 2009). PI is commonly used to capture the means through which

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teachers, teacher educators and researchers investigate and improve their own practice by considering the cycles of action and reflection in the process of improving their practices (Carr and Kemmis 1986; Kemmis 2006). The diversity of approaches to inquiry share a common goal of creating ways of knowing and generating practice-based evidence or evidence-based practice (Casey et al. 2018; Goodyear, Casey, and Kirk 2013; Oliver, Oesterreich, Aranda, Archeleta, Blazera, et al. 2015). PI invites educators to investigate their practice, recognising that improving practice is intricately linked to the contexts and power structures shaping teaching and learning (Cochran-Smith and Lytle 2009). In that context, PI positions teachers as agentic generators of knowledge and catalysts for change. PI facilitates disruptive thinking, challenges entrenched traditional teaching methods and contributes to pedagogical change (Goodyear and Casey 2015; Jones 2023).

Research in Health and Physical Education (HPE) suggests that PI can be a powerful tool to enhance teaching and learning (Jones 2023; MacPhail, Scanlon, and Tannehill 2023; Oliver, Oesterreich, Aranda, Archeleta, Blazer, et al. 2015; Alfrey, O'Connor, and Jeanes 2017). As a process, PI creates spaces for teachers to explore their daily practices, fostering pedagogical change and innovation (Goodyear and Casey 2015; Luguetti and Oliver 2020; Wrench and Paige 2020). The positioning of the teacher-as-researcher can support teachers in connecting theory and practice, providing a platform for reflection, experimentation, and meaningful change in thinking and practice (Freire 1987; Jones 2023; MacPhail, Scanlon, and Tannehill 2023). It also enables teachers to innovate and untangle themselves from historically traditional practices in HPE that may no longer serve them or their students (Goodyear, Casey, and Kirk 2013; Jones 2023; Oliver, Oesterreich, Aranda, Archeleta, Blazera, et al. 2015).

Despite some evidence of the influence of PI on HPE teachers' knowledge and practices (Goodyear and Casey 2015; Luguetti et al. 2019; Patton and Parker 2014), limited research has explored the ways in which teachers view *their* PI as a means to influence student learning and their HPE colleagues. This study responds to the research question: in what ways do HPE teachers believe that PI influences their teaching practices, their students and their HPE colleagues?

## Practitioner inquiry: the notion of inquiry as stance

Across multiple sectors, it is important for teachers to engage in ongoing PI (Salter and Tett 2022). PI emphasises active exploration of knowledge creation, critical thinking, and self-directed learning (Cochran-Smith and Lytle 2009). Rooted in constructivist and critical pedagogies, PI encourages teachers to pose questions, investigate problems, reflect on their findings, and draw conclusions. Importantly, the process of inquiry involves formulating questions, investigation, reflection and conclusion and this process becomes the central focus rather than the outcome of the learning or the product (Newman and Leggett 2019; Salter and Tett 2022; Schon 2017). Cochran-Smith and Lytle (2009) extend this thinking by suggesting PI offers a critical and transformative stance that is linked not only to high standards for the learning of all learners, but also to social change and social justice and the individual and collective professional growth of teachers.

PI is a pedagogical approach that offers an arguably richer alternative to what Freire (1987) would call the 'banking' mode of education which forms the basis of much teacher 'professional development'. For Freire (1987), PI is a way to work toward praxis and *conscientização*,[1] where teachers and students collaboratively look at reality, critically reflect upon that reality and take transformative action to change that reality. *Conscientização* focuses on achieving an in-depth understanding of the world, allowing for the perception and exposure of social and political contradictions; it also includes praxis, in other words taking action against the oppressive social injustices (Freire 1987; hooks 1994). Freire's work emphasises that *conscientização* is the important initial stage of transformation: a moment when we begin to think critically about ourselves, our identities and our political circumstances.

Whilst the value of teacher PI is rarely questioned, it is important to acknowledge the challenges that teachers face in attempting to enact this practice. Research suggests that teachers can struggle to

identify as a 'researcher', and they usually face the pragmatic and perennial challenges of time, opportunity and capacity to engage with PI (Newman and Leggett 2019; Salter and Tett 2022). Enacting PI requires teachers to become reflexive, inquiry-based practitioners. This sees teachers adopt and cultivate an active inquiry stance to systematically investigate their practice (Cochran-Smith and Lytle 2009). Such an approach means that teachers must be guided on how to critically reflect during the systematic, data-based critique of their ongoing teaching practices and the contexts in which they teach (Schon 2017).

The notion of *inquiry as stance* (Cochran-Smith and Lytle 2009) foregrounds the role that teachers can play, both individually and collectively, in generating local knowledge, re-envisioning and theorising practice, as well as interpreting and interrogating the theory and research of others. For Cochran-Smith and Lytle (2009), *inquiry as stance* means that PI forms habits of mind or worldviews intended to challenge the inequities perpetuated by the educational status quo. In that sense, teachers who undertake PI aim to explore and understand the intertwining concerns of practice and inquiry, emphasising reflexivity – acknowledging and grappling with one's biases and assumptions. It advocates for teachers to take responsibility for these biases in both personal and institutional contexts, actively challenging them within collaborative and service-oriented relationships (Cochran-Smith and Lytle 2009). This approach views inquiry as a platform for reflective educational, political, and cultural engagement, fostering personal and professional growth while cultivating an inquiry-driven approach to practice.

## Research context: the TEP programme

The TEP, which is a one-year programme designed to advance professional knowledge and practice for teachers from government, Catholic and independent schools in Australia, was launched in 2022 with a pilot cohort of 250 teachers. There are six key interconnected components of the TEP, which are: (a) teaching and learning in and across the disciplines; (b) implementing a responsive pedagogy; (c) embedding PI and understanding impact; (d) activating dispositions for excellent teaching; (e) enhancing collaborative expertise; and (f) promoting teacher agency.

As part of TEP, teachers engage in various learning activities including 'Conference Days' and 'Discipline Days' (discipline-based workshops). They also participate in cross-sectoral and cross-discipline Learning Communities, focusing on both improving pedagogy and engaging in PI projects. Master Teachers[2] lead the Discipline Days, facilitate the activities within the Learning Communities, and provide feedback to the teachers on their PI projects, fostering professional dialogue and peer learning among the teachers. There are two PI projects within the TEP: (i) an independent PI; and (ii) a collaborative extended PI. These two practitioner inquiries focus on a self-identified problem of practice that the teachers wish to explore further and entail an examination of teaching methodologies, the intricacies of student learning processes, and the cultural and contextual dynamics within learning environments.

PI is one of the core components of the TEP. Rooted in these authentic and relevant problems of practices, PI provides an opportunity for the teachers to develop and implement action plans, allowing for the trial and evaluation of innovative practices (for them), and research-informed teaching approaches in relation to the area of focus. Through this iterative process, teachers are expected to cultivate awareness of their pedagogical practices, personal dispositions, and professional growth trajectories, fostering collaborative learning environments conducive to ongoing dialogue and collective reflection.

The TEP inquiry cycle scaffolds the process of conducting an inquiry into practice (see Figure 1). Supported by Master Teachers, teachers engage in each phase of the cycle and participate in dialogue and collaborative problem-solving related to emerging challenges. The cyclical process involves identifying and selecting problems as opportunities for new learning. While problem identification is a starting point for PI, new, connected problems will likely emerge during the inquiry. Problem-finding and solving enable deep thinking and learning. They are catalysts for strategic action and for improving what teachers do.

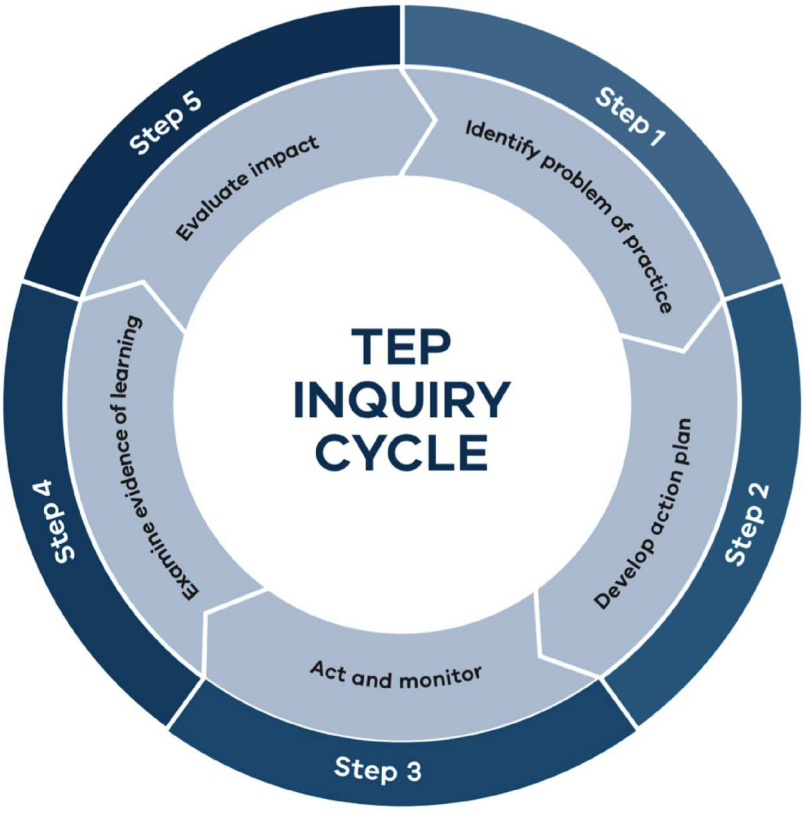


**Figure 1.** The TEP inquiry cycle.

The process outlined in the TEP inquiry involves five iterative key steps. Step 1 entails identifying a problem of practice, where teachers pinpoint challenges in their teaching and students' learning through various means such as data analysis, student feedback, and dialogue with colleagues. Step 2 involves developing a strategic action plan to address the identified problem, with mentorship provided by Master Teachers. Step 3 requires teachers to act upon their plan and monitor the outcomes, utilising various methods such as lesson planning, peer observation, and reflective journaling to document and assess their actions. Step 4 emphasises examining evidence of learning, including qualitative and quantitative data collected from students at different stages of the learning process., Step 5 focuses on continuously evaluating the impact and readjusting their practice. This phase is iterative with the teachers collecting and analysing their data continuously throughout the process and readjusting their practice. Throughout this process, teachers are encouraged to reflect on their practice, adjust their strategies to meet the needs of the students and collaborate with colleagues to enhance professional growth.

PI is one of the six key interconnected components of the TEP. These components influence the impact of PI within the TEP. In this study, we focus on the PI component, while future research should explore the broader impact of the TEP components on teachers' practice.

## Methodology

This study is drawn from a larger project in which researchers (the first and second authors) evaluated the TEP throughout the year 2023. In the large project, the researchers collected documentary data and interviews with TEP organisers (e.g. TEP director) and HPE teachers. The larger project

was guided by collaborative evaluation principles (O'Sullivan 2012; Rodríguez-Campos and Rigoberto 2012) where key TEP organisers were engaged during each stage of the evaluation process.

This study focuses on the HPE teachers' perspectives, and is presented an exploratory, multimethod case study (Flyvbjerg 2006). The case study presented here is embedded in real-life situations that allowed us to share in what ways HPE teachers believe that PI in the TEP programme impacted their teaching practices, their students and their HPE colleagues.

### Participants

In 2023, thirteen HPE teachers[3] were accepted into the TEP programme. Participants for this study were drawn from this field and included seven HPE teachers from different sectors (Government, Catholic, and Independent)[4] and levels (Primary and Secondary) of education (see Table 1). We invited all 13 HPE teachers to be part of the study and seven teachers accepted.

### Data collection and analysis

Data were collected via three qualitative methods, which were:

(a) *Two semi-structured interviews with each of the HPE teachers*. The first interview occurred in the middle of the year, and we asked questions about the teachers' backgrounds, previous experiences regarding PL and questions about the individual PI. The second interview occurred in November 2023 and focused on the impact of the TEP programme and questions to the collaborative PI.
(b) *Artefacts generated through the PI*. We collected all teachers' artifacts in the TEP including framing a problem of practice and action planning documentation, and their self-evaluation of impact.
(c) *Cartoons*. Four of the seven HPE teachers agreed to explore their PI in more detail via cartoon co-creation. During the second interview with participating teachers, they were invited to reflect on their PI more deeply and identify critical incidences within their inquiry that influenced their professional learning experiences, and this impacted their teaching practices, students, and in some cases colleagues. The cartoons were chosen in this study because they play a key role in creating a space for participants and researchers to reflect on embodied experiences such as teaching. Indeed, Everley (2021, 17) suggests that using methods that require the creation of artifacts, such as cartoons, allows both researchers and participants 'time to think carefully about each stage and detail a response as the research progresses, therefore creating analytical opportunities to discern the meaning of what is being produced and how it is being represented.'

**Table 1.** Description of the HPE teachers.

| | Pseudonym | Sector | Level | Years of experience | Problem of practice |
|---|---|---|---|---|---|
| 1 | Jeff | Catholic | Secondary | 11 years | Metacognition and Feedback of Year 12 Physical Education Students |
| 2 | Monica | Independent | Secondary | 16 years | Using student voice in the planning process to increase engagement |
| 3 | Jack | Government | Secondary | 9 years | Enabling senior students to take greater ownership of their learning |
| 4 | Rosie | Government | Primary and Secondary | 6 years | Participation rates and confidence levels of female-identifying students in Physical Education and Health |
| 5 | Ella | Government | Secondary | 8 years | Student engagement |
| 6 | Zoe | Catholic | Primary | 30 years | How does connection to community/real-life situations help the disengaged learner? |
| 7 | Thomas | Independent | Secondary | 23 years | Developing an understanding of the factors that enhance students' thinking in HPE |

### Data analysis

Data analysis was conducted according to the six-step reflexive thematic analysis method documented by Braun and Clarke (2019, 2021). In step one, the first three authors of this study individually read and re-read the entire dataset as a process of familiarisation with the data. In step two, the first three authors individually crafted interpretive codes that were relevant to the research question in this study. As an iterative process, these codes were constantly refined as more and different data were considered. Next, these authors met to discuss their coding interpretations and to collectively agree on a common set of codes, assembling the codes into three initial candidate themes. During this step of the analysis, multiple revisions were made to the initial candidate themes until all authors agreed that they represented the entirety of the dataset. As an illustrative example, the authors felt that the codes of 'providing feedback to students' and 'a focus on students setting learning goals' were best represented by the common code of 'using high-impact teaching strategies'. This code, which was coupled with the common code of 'building positive classroom cultures for learning', formed an initial candidate theme in 'change in teachers' practices'. Steps 3–5 saw the three researchers further develop and review these three initial candidate themes, engaging in critical dialogue together to reach a consensus on the three final themes, which were: (1) the inclusion of student-centred pedagogies; (2) an increase in students' engagement; and (3) a platform for professional dialogue with others.

In co-constructing the themes, we selected quotes that best represented each theme and chose cartoons that illustrated the cycles of action and reflection within the PI process. We believe these cartoons helped unpack key moments in the teachers' PI, highlighting critical incidents that influenced their teaching practices, students, and, in some cases, their colleagues. These findings are explored in the following section.

## Findings

The research shared in this paper responded to the following question: in what ways do HPE teachers believe that PI influences their teaching practices, their students and their HPE colleagues? The next section responds to the research question and presents the study's findings across three areas: teachers' practices, students' experiences, and interaction with HPE colleagues.

### Teachers' practices – including more student-centred pedagogies in their practice

The teachers noted how the process of engaging in PI positively influenced their teaching practice, employing more student-centred pedagogies through and following their PI. It is important to note that all teachers' problems of practice were aligned with student-centred pedagogies (see Table 1). The teachers might be influenced by the first two Discipline Days where students' voices and social inclusion were discussed. The teachers noted that the changes in their pedagogical approaches were driven by a commitment to inclusion, as reflected in the following two comments:

> I have changed now [since the PI] in that I am going to look at those individual children and just do little things like checking in with them, making sure they're okay and if any issues are starting; maybe getting over to them early, and just have a chat with them about what's going on. (Zoe)

> I found the kids were loving the pre-teaching side of things […] that kind of eliminated that competition and eliminated the chance for the boys to kind of dominate. (Rosie)

These representative quotes illustrate some shifts in practice that the teachers felt were prompted by their PI. Both Zoe and Rosie became more attuned to communicating with their students at various 'touch points' in the lesson, with the differences between the two based on contextual conditions and PI focus area. Zoe sought to enhance the engagement of students who often displayed

behavioural challenges in her inquiry. She made a concerted effort to check in with these students constantly through her lessons. Conversely, Rosie's inquiry focused on ensuring equity of participation in her PE lessons. Rosie's cartoon (see Figure 2) described her cyclical process in the PI and some of the critical incidents:

The cartoon illustrates Rosie's PI aimed to challenge stereotypes, address power relations, and create a learning environment where every student felt seen, valued, and capable of thriving (see Figure 2). Rosie decided to do her PI in a practical PE class with Grade 5 students. However, as


**Figure 2.** Rosie's representation of the practitioner inquiry (individual).

she observed the students playing a team sport, she couldn't help but notice a concerning trend. The boys were dominating the game, and the girls were left on the sidelines, disengaged and excluded.

Determined to make a change, Rosie introduced an activity to the class. She asked her students about the concept of confidence in PE. 'What is confidence? What does confidence look like in HPE? Why is it important to be confident?' Students responded to Rosie's questions, working together to create a map of 'confidence in PE. As a result of the students' responses, Rosie introduced small-sided games that encouraged more female students to participate. However, not everything went smoothly. Some of the male students continued to make disparaging comments about the female students. They said things like, 'I don't want to play with girls,' 'Girls don't know how to play,' or 'I want to play with my friend.' These remarks negatively influenced the participation rates of the female students in the class, which Rosie described as disheartening.

Faced with these challenges, Rosie engaged in individual conversations with both male and female students in her class. She worked closely with the female students, helping them to build proficiency with their fundamental movement skills, while also encouraging them to believe in their movement abilities. At the same time, she also worked with the male students, raising their critical awareness about gender issues and the importance of respecting and supporting their female peers. In the final frame of her PI cartoon, Rosie demonstrates that she has created an inclusive environment where all students, both male and female, participated together in her class. Rosie changed her teaching practices, opening up space for more student-centred pedagogies where more confident students were paired with less confident students to enhance positive connections in the classroom.

Similarly, Jack and Monica explained that their PI projects focused on embedding pedagogical strategies to enhance student agency. Here the student-centredness was less about inclusion as described by Rosie and more about co-design elements in their classroom:

> It was [co-design] something that was, to them, a completely alien concept … I collected evidence from the success criteria they set at the start and then to where they're at now, and what I learnt was how I could scaffold it for them and walk away … I mentioned the command words to them because we have to start with 'I can' every lesson. (Jack)

> The class became much more enjoyable for everybody because they can be a little bit challenging. So, I think that's the bonus that came out of it [inquiry project]. I also think that the kids can see that we're learning together. (Monica)

Jack's PI centred on creating spaces to empower students to craft success criteria based on an initial overview of the lesson, with his analysis of evidence enabling him to learn about the importance of scaffolding occurring alongside students' agency in developing success criteria. Similarly, Monica's PI saw a particular focus on engaging in dialogue with her students. At the start of the PI, Monica opened up space for her students to speak about what they wanted to learn in a unit of work and how they wanted to learn it: 'I started to change that unit of work … they like Kahoot, quizzes, and games like that. So, I implemented more of those'. With this change in practice, Monica noticed a positive shift in the learning environment. As a result of the success of this dialogical approach enacted through her PI, Monica commented that it had changed her pedagogical practices in other classes, too:

> I have changed my approach in a couple of other classes, where I'm like, you tell me how you want to learn this. Or I came up with this activity, but do you think it's a good idea? And if they say no, I'm like, well, okay, we won't do it. Instead of just pushing it on them I'm like, how can we do it? (Monica)

The excerpts in this section illustrate how engaging in PI cycles led teachers to adopt more student-centred pedagogies, though each teacher interpreted and implemented these approaches differently. For some, like Rosie, student-centred pedagogy meant creating spaces for social inclusion, while for others, such as Jack and Monica, it involved co-designing classroom activities with students. Additionally, Rosie's cartoon described the resistance of students to change and her different

student-centred strategies to address gender inclusion. This shift toward student-centred practices can be attributed to the alignment between teachers' problems of practice and the themes of the Discipline Days, which motivated them to enhance their student-centred pedagogies. The PI cycles encouraged and supported teachers in exploring more inclusive pedagogies, emphasising dialogical processes between themselves and their students.

### *Students' experiences – an increase in students' engagement with PE*

The teachers indicated that the pedagogical shifts, toward student-centred approaches, and prompted by the PI cycles led to increased student engagement in their HPE classes. For them, this increase in engagement was linked to the implementation of student-centred pedagogies, as highlighted in the previous theme. Jeff and Monica provided specific examples of this impact, describing how these changes influenced their classrooms:

> 95% of them [students] have all said that they want to participate more and want to continue to do more peer feedback in class, which has been brilliant. (Jeff)

Jeff's PI focused on implementing student-centred activities, whereby students reflected together and consequently improved their engagement. For Monica, her cartoon illustrated the critical incidents of her PI:

The cartoon depicts Monica standing before a year 12 class, teaching health education (see Figure 3). As she looked out at her students, she noticed their disengagement. The classroom was filled with the glow of iPads and phones, and the students appeared distracted, their attention diverted to negative social media influences. Monica attempted to spark discussion by asking questions about the subject, but her students remained silent, absorbed in their devices. Based on this experience, Monica decided to focus her PI on students' engagement. She knew that to make a difference, she needed to adapt her teaching approach and connect with her students on a deeper level.

Monica incorporated multiple ways to listen to her students. First, she introduced a classroom suggestion box, giving students a voice and the opportunity to offer ideas. She also encouraged class discussions about the 'how' and 'what' of their learning. Furthermore, Monica asked her students to email her with their feedback, creating a direct channel for their thoughts and concerns. In the next phase of the lesson, the students were asked to create anonymous questions about consent. Half of the class was actively participating, while the other half remained disengaged. However, the engaged students, who had now built relationships and understood diverse perspectives, began encouraging their less-engaged peers to contribute.

Monica found herself back in front of the mirror, but this time, her reflection was accompanied by a satisfied smile. She realised that her connection with her students had grown stronger because they felt heard and valued in her classroom. The students now trusted Monica and felt comfortable asking questions. Monica had successfully created an environment where learning was a collaborative and engaging experience, and her students felt supported and valued.

An increase in student engagement was also evidenced in Zoe's PI, which centred on using technology in her PE lessons as a means to enhance student engagement in PE. Zoe had noticed a high proportion of students opting out of participating in PE and so she wanted to gauge the effect of incorporating technology into her lessons as a means to motivate students to participate, especially for the students who perpetually disengaged from movement-based activities:

> It did seem to be effective. It stopped that, you know, initial 'I'm just going to sit out for the whole session' from the students. It was like, alright, I'll do this for five minutes, play these games, get my mind in it … I've kind of got my head in the groove a little bit. I've warmed myself up in a different way […] A lot of them didn't really understand virtual reality, you know, and then when I was able to talk to about the end of it, they were like, wow, that sounds really exciting and it motivated them, maybe gave them some sense of some career options in the future […] So yeah, I think going forward from it, it'd be good to do it longer. (Zoe)

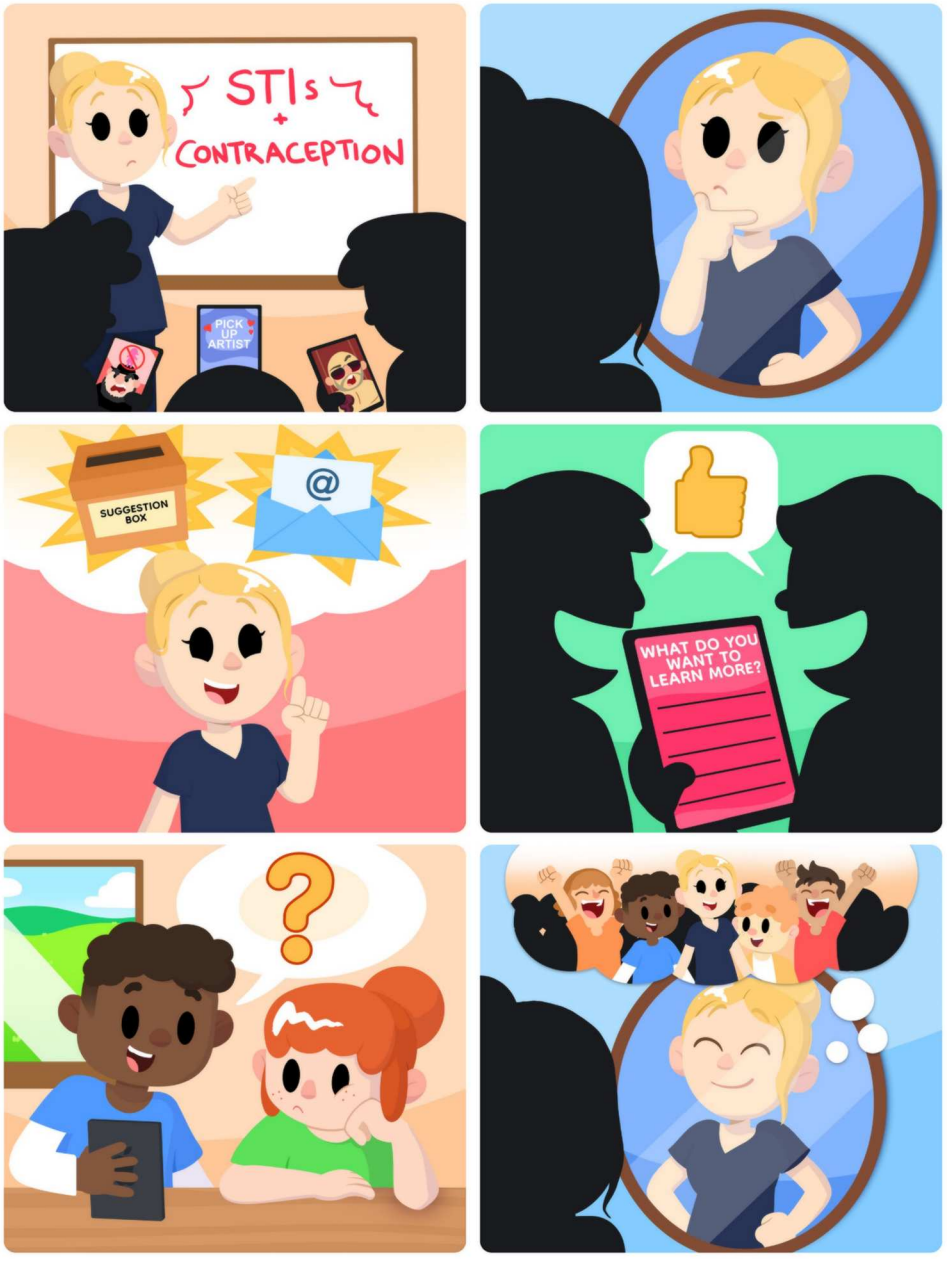


**Figure 3.** Monica's representation of the practitioner inquiry (individual).

The survey results that Zoe collected as part of her PI showed that her students were more motivated to participate in the lessons. The use of technology provided a new medium for students to connect with the discipline of HPE, offering differentiated opportunities for them to engage in movement activities. Zoe also noticed a change in engagement in her PE lessons when she focused on working with and alongside her students rather than from a top-down approach. Indeed, Zoe's reflections towards the end of her first interview demonstrated that through the professional dialogue she had with colleagues in the TEP, she realized there were

more and different ways to collect data than solely through observational notes, which could have strengthened and triangulated the findings in her inquiry project:

> Somebody told me this afterwards, maybe I could have done it, he could have filled out a form afterwards about how he enjoyed the lesson or what he did and things like that. So that would have been more evidence as well. And thinking about it, I should have done that. But I just didn't in the end […] with so many absences, it was really hard to get a good indication of data sets, because at the start, we had six, and then in the end, we only had three [students]. So, because it was just a short amount of time, it was really hard to see if, you know, the effect of this would be consistent over a longer process … it was too hard to show if it was related directly from the inquiry; hard to know if it made any difference just because it was such a short period of time. (Zoe)

Zoe commented on her desire to have a more time to implement the inquiry cycle, notably because at the time of undertaking her inquiry project there were high amounts of student absences from her class and because of the limited time in which to undertake the work. While the teachers relied mostly on subjective perceptions of their influence on students' experiences in the first instance of the inquiry cycle within the TEP, there was much emphasis placed on how to improve the cycle for the next time within their schools. TEP was designed to scaffold the learning of research skills necessary for conducting PI, facilitated by its structure and the scaffolding and feedback provided by Master Teachers.

This theme highlighted that the pedagogical shifts toward student-centred approaches, highlighted in the previous theme, led to increased student engagement. The data suggest that PI helped teachers recognize the value of student-centred pedagogies, which positively impacted students' engagement. Monica's cartoon emphasised the complexity of exploring diverse ways to listen to students' voices. For Monica, the consistent process of listening and responding was central. For teachers like Zoe, additional time and a deeper understanding of how to capture the impact on students could further support this process.

### *Colleagues – a platform for professional dialogue with HPE teachers*

TEP was not initially designed with the expectation that teachers would influence the teaching practices of their colleagues, whether in HPE or other disciplines. This impact emerged as an unexpected outcome for TEP. The core intention of TEP is for teachers to develop an awareness of their pedagogical practices, personal dispositions, and professional growth trajectories. The primary aims focus on fostering teacher transformation and enhancing student outcomes.

The data suggest that, through their PI projects, some of the teachers were able to influence the practice of their HPE colleagues. The TEP inquiry cycle had been brought into the HPE teachers' schools as a focal point for collaborative discussion, with instances of the teachers' tools, interventions and findings being used by the teachers' colleagues. Rosie offered insights into peer influence. In Rosie's case, she distributed a reflective feedback sheet for students, which emanated from her inquiry project, amongst the HPE teachers within her school-based Learning Community. She commented,

> We've implemented the reflection across all specialist teachers. That's something that we all tried in our PLC [Professional Learning Community], we did it for a few weeks […] and we found that the mood going into the next class was a lot better. It was, yeah, just purely observational, but we found that the students' mood going from one class to the other was a lot better, so much better. So that's something that we're going to keep continuing, especially with our grade fives, and we're going to look at another cohort at the other campus as well because we've got two campuses. So, the other campus is going to start doing that with one of their cohorts as well. (Rosie).

The uptake of this reflective feedback sheet had seen the PLC team critically discuss the importance of listening and responding to students' feedback in order to enhance their motivation to engage and learn. As a result of the success of these PLC discussions, Rosie explained that the reflective feedback sheet that she created will now be used cross-campus by other HPE colleagues outside of her PLC team.

While there were positive instances of the TEP teachers influencing the practice of HPE colleagues, the teachers commented that it was difficult to gauge the immediate effects and that they would need more time to implement and evaluate change. Linked to this, some of the teachers stated,

> I would like to lead professional development for staff, which would be a long-term approach of doing it for a couple of classes, or say, one class, for example, a year eight level upskill all of their teachers and see how it goes, monitor it, and then use those teachers as kind of champions to help upskill other people, so to kind of branch out step by step, until hopefully, it becomes something that's embedded within our schools practice and what everyone does. (Jack)

> So, people in my team were like, why are you even bothering to do this? Like why ask the kids? There are people who have problems giving up power. Not all of them, but you know, there were some people who were like, I don't see the point […] while they all thought it was an amazing idea they weren't willing to put in the time. But I think the message that I've talked about in faculty meetings is about stepping away from the teacher-led everything and letting the kids have input into something. And I know some teams have taken it on board. (Monica)

The teachers expressed hope that, in time, some of their PI findings could be embedded across their school contexts. Monica referred to momentum building when he reflected upon the influence on HPE colleagues, alluding to the ongoing process of building teachers' confidence by engaging in the inquiry process themselves. The teachers referenced the need to build momentum with HPE colleagues over time, primarily due to influencing teachers' views on student-centred pedagogies. For a few of the HPE teachers, their PI influenced other teachers in their school. As one teacher shared:

> My appreciation of PI has grown and, as a result of that, I've been able to impact my colleagues in any improvement or just altering their stance on PI too […] I think, largely, our stance on protection PI would, if I wasn't involved, be what it was last year, which is undervalued […] I've modified a few of the things in my own school to sort of say, you know, we're going to be very deliberate about what we're going to do, and this is the procedure that we're going to follow. So, although that change hasn't necessarily happened yet, it's certainly about to. And I always come back to this idea that we want to elevate the profession and that's really stuck with me … that's probably had an influence on me and the way in which I want to elevate my own colleagues at my own school. (Thomas)

Thomas, who holds a leadership position in his school, commented on how his learnings from his inquiry had been imparted to his colleagues outside HPE. Thomas further emphasised how this had influenced his leadership practices at the school. Similarly, Jeff had used the inquiry process as the basis for his professional discussions with the director of learning at this school, who was a TEP graduate, as well as with the head of science at his school. Jeff described how at the end of his individual PI he invited the director of learning to co-design a project to improve students' reflection. Jeff's cartoon highlighted the influence he has had on peers (Figure 4):

For his PI, Jeff implemented a new strategy to inspire his students. He introduced a reflection form into his class. The form was designed to help students think critically about their experiences and growth, both in and out of the classroom.

As students began filling out the reflection forms, Jeff noticed that many students were resentful of completing them as it took their time away from practical activities. The students' expressions reflected their frustration. Jeff organised an in-class group discussion. Here, students openly shared their concerns and expressed their desire for a better balance between reflection and learning practical activities. With valuable insights from the discussion and the survey results, Jeff adapted his teaching approaches. He implemented student-centred activities where reflections were happening more actively.

At the end of his PI, Jeff was captured in a planning session with two fellow teachers who had participated in the TEP in 2022. Together, they were in the process of designing a reflection project for the entire school. Jeff mentioned:


**Figure 4.** Jeff's representation of the practitioner inquiry (individual).

> The reflection sheet and the action plan have been really successful … talking to my director of learning, who did the program last year, and he was really on board with the reflection sheet and he's using that with his year 12 health class […] and my head of science really likes it, too, so I hope she takes it if she wants to, and modifies it to what suits their department.

This theme highlighted that TEP was not originally designed to facilitate teachers influencing their colleagues' practices across HPE or other disciplines; this impact emerged unexpectedly for TEP. Through their PI projects, some teachers began to influence their HPE colleagues by integrating the TEP inquiry cycle into their schools, fostering collaborative discussions. In considering *inquiry*

*as stance*, the impact on other colleagues was expected in the sense that PI positions teachers as agentic generators of knowledge and catalysts for change (Cochran-Smith and Lytle 2009). In this sense, PI projects created learning communities, and those social spaces influence other colleagues' learnings.

## Discussion and conclusion

> Fundamental to the notion of *inquiry as stance* is the idea that educational practice is not simply instrumental in the sense of figuring out how to get things done, but also and more importantly, it is social and political in the sense of deliberation about what to get done, why to get it done, who decides, and whose interests are served (Cochran-Smith and Lytle 2009, 121).

In considering PI as stance, Cochran-Smith and Lytle (2009) invite us to consider the pivotal role of teachers as teacher-researchers, in generating localised knowledge, reconceptualising and theorising practice, and critically engaging with the theories and research of others. Viewing PI as stance entails adopting a 'habit of mind' or worldview aimed at challenging the inequities entrenched in the educational status quo (Cochran-Smith and Lytle 2009). In our study, the HPE teachers – positioned as agents of change – suggested that engaging in multiple cycles of inquiry supported them to (a) shift their teaching practices, including more student-centred pedagogies; (b) therefore influenced students' experiences, particularly by increasing their engagement in HPE; and in some cases, (c) influenced some of their HPE colleagues. In this discussion, and in response to the research question, we now critically examine the influences of the PI on the participating teachers, their students and their HPE colleagues.

The findings of our research align with a body of literature that underscores the influence of PI on HPE teachers' practices (Jones 2023; MacPhail, Scanlon, and Tannehill 2023; Oliver, Oesterreich, Aranda, Archeleta, Blazera, et al. 2015). The HPE teachers involved in our study, used their PI as a means to shift toward more student-centred pedagogies Each teacher approached this shift in unique ways. For instance, Rosie focused on creating inclusive spaces to foster social inclusion, while Jack and Monica emphasised co-designing classroom activities with their students.

This shift toward student-centred pedagogies was driven by the alignment between teachers' problems of practice and the themes explored during the Discipline Days, which motivated them to refine and enhance their pedagogical approaches. Their engagement in PI as teacher-researchers allowed them to innovate and untangle themselves from historically rooted practices in HPE that they decided did not always serve them or their students. These findings highlight how PI can catalyse pedagogical innovation if particular resources are available (Jones 2023; MacPhail, Scanlon, and Tannehill 2023; Oliver, Oesterreich, Aranda, Archeleta, Blazera, et al. 2015).

Extending the existing body of research, our study offers insights into how PI might influence students in the HPE context as well as calling for more research to be conducted in this regard. Since the overarching goal of teacher professional learning is to ultimately enhance student experiences and/or learning, understanding teachers' perceptions of students learning within PI projects is crucial (Armour and Yelling 2007; Yoon and Armour 2017). In our study, the HPE teachers shifted toward student-centred approaches resulting in student engagement. PI enabled teachers to recognise the importance of these pedagogies, leading to a positive impact on student engagement. The structure of TEP might explain its influence on students' engagement. Through its interrelated components – teaching and learning across disciplines, implementing responsive pedagogy, embedding PI and understanding impact, activating dispositions for excellent teaching, enhancing collaborative expertise, and promoting teacher agency – TEP supported teachers in conducting PI and building their confidence as teacher-researchers. They learnt to elicit and closely examine evidence of student engagement consider their actions and determine how to measure the impact of their inquiry. The data suggest that this was made possible, at least in part, due to a combination of Learning Community days (4 days) and Discipline Days (4 days) which created a supportive environment for HPE teachers to engage in PI.

According to the teachers in this study, the process of collecting data about students' experiences in HPE PI projects exhibits certain limitations. The HPE teachers tended to rely on surveys or observations to evaluate the impact of their teaching pedagogies on students. Some of the HPE teachers incorporated students' assessments into their PI data collection, but this was not commonplace. A noteworthy limitation arises from the tendency for the HPE teachers to opt for a singular method of data collection, whether it be surveys, observations, or assessments. This aspect was evident in Zoe's reflections when she realised there were more and different ways to collect data than solely through observational notes. This limited approach may not capture the full spectrum of impacts of teacher PI on student experiences and limit the nuanced insights that are possible.

For Cochran-Smith and Lytle (2009), systematicity is one of the features of considering *inquiry as stance*. For them, systematic documentation resembles the forms of data collection used in qualitative studies where the strengths rely on multiple data sources that illuminate and confirm but also disconfirm one another. Central here is the data suggesting that the TEP had begun to instil in the participating teachers a commitment to long-term and highly systematic observation and documentation of learners and their sensemaking (i.e. better-equipping teacher as researcher stance). It is recommended that HPE teachers explore and integrate multiple methods of data collection (e.g. field notes/observations, quantitative data, qualitative data) and analysis, allowing for a more comprehensive understanding of students' experiences and enabling a richer analysis of the effectiveness of the PI.

It is also important to recognise the challenges and complexities that teachers face when attempting to implement PI. Research indicates that teachers often struggle to see themselves as 'researchers' and frequently encounter practical barriers, such as limited time, opportunity, and capacity to engage meaningfully with PI (Newman and Leggett 2019; Salter and Tett 2022). Enacting PI requires teachers to become reflexive, inquiry-driven practitioners who systematically investigate their practices, adopting an active inquiry stance (Cochran-Smith and Lytle 2009). This process demands support. To improve teachers' readiness for PI, structural support is essential in developing the research skills needed (Alfrey, O'Connor, and Jeanes 2017; MacPhail, Scanlon, and Tannehill 2023).

As an unexpected consequence for TEP, some of the HPE teachers speculated the influence of their PI projects on their colleagues, whether in HPE or other disciplines. For some of the teachers, the PI served as a pilot to be scaled up by other HPE teachers. One consequence of PI for Rosie was the implementation of reflective practices across all HPE teachers through leading professional learning communities. The intention to expand these practices to different classes demonstrates a commitment to scaling the positive outcomes observed. For Jeff, the inquiry project created an opportunity to prompt school change related to improving students' reflection. While the influence of PI on HPE colleagues was an unexpected outcome for TEP, for Cochran-Smith and Lytle (2009), communities are the catalysts for PI. For them, *inquiry as stance* is not just about individuals, but rather about communities nurtured in the school context. From this perspective, therefore, the extension of the PI into teachers' professional communities more broadly is arguably unsurprising.

Challenges such as resistance from colleagues and the need for sustained dialogue and support structures highlight the complexities of implementing PI within educational contexts (Newman and Leggett 2019; Salter and Tett 2022). Some of the teachers echoed the sentiment of encountering resistance from some colleagues who were reluctant to relinquish control and incorporate PI into their practice. Some of the HPE teachers recognised that time played a crucial role in influencing their peers' perceptions and practices. As they delved into their PI projects, some of them observed a ripple effect extending beyond their own classrooms. Rosie's initiative, in particular, sparked a broader adoption of reflective practices among HPE teachers, signalling a shift towards a more collaborative and introspective approach. Yet, amidst their successes, the teachers grappled with resistance from some colleagues hesitant to embrace new methodologies. Nevertheless, they remained steadfast in their belief that sustained dialogue and supportive structures would pave the way for enduring transformations within the school's culture.

We recognise the limitations of focusing solely on teachers' perceptions of how students and colleagues were influenced by the PI process. Indeed, we recommend that future research include the

perspectives of teachers' students and colleagues. Incorporating these diverse viewpoints would enrich the understanding of the complexity and impact of PI. We found through the co-design of the cartoons with teachers that this process of data collection was critical in revealing the intricate dynamics of the PI process and fostering deeper reflection among participants (Everley 2021). These cartoons facilitated the identification of critical incidents within their practitioner inquiries. The act of creating the cartoons enabled teachers to explicitly discuss essential moments within the cycles of action and research. While interviews provided some insights into the process and outcomes, the collaborative design of cartoons served as a catalyst for a more profound understanding of both the outcomes and the process itself. The cartoons served as a member-checking of the main findings and on the same time unpacked the circles in the action and reflection process in the PI. Furthermore, the process of explaining the cartoons to the cartoonist and reflecting on different versions was essential for gaining a better understanding of the events.

Our study highlighted the transformative potential of combining PI and an *inquiry as stance* perspective within the realm of HPE. Through engaging in multiple cycles of inquiry, the HPE teachers experienced shifts in their teaching practices, student engagement, and professional interactions. These findings highlight the importance of a supportive context for empowering teachers to adopt a reflexive and critical stance towards their practice, challenging inequities and fostering inclusive learning environments (Cochran-Smith and Lytle 2009; Schon 2017). Future research in the field of HPE should continue to explore the outcomes of PI development among teachers, particularly through the integration of arts-based methods, such as cartoons or other creative approaches. HPE as an embodied subject requires us to extend our methodological repertoire to include creative methods. These creative approaches can be valuable in unpacking critical incidents within the cycles of PI, offering insights into the complexities of teachers' embodied experiences.

In concluding, this study underscores the potential influence that PI, informed by an *inquiry as stance* perspective, can have on HPE teachers, their students, and colleagues. The findings shared here suggest that when positioned as researchers, teachers can generate localised knowledge, critically engage with research, and reimagine and enhance their practice. Enrolling in the TEP meant that the teachers we worked with had the time, impetus and support to be able to take up the invitation to engage in PI. The question that remains is: given the relatively unique nature of the TEP, how can teachers be sustainably supported to be researchers and architects of their professional world, communities and practice?

## Notes

1. Conscientisation or critical consciousness.
2. The Master Teachers are teachers-in-residence who support and facilitate the curriculum design, consultation and provision of professional learning for the TEP.
3. In 2023, there were 505 teachers in different subjects who applied for and were accepted into the TEP programme.
4. In Australia, government schools are typically the closest school to a child's residence and are divided into primary (Prep to Year 6), secondary (Years 7 to 12), or P–12 schools, which combine both levels. Non-government schools – also known as private, independent, or Catholic schools – operate separately from the government system, have their own enrolment procedures, and usually involve tuition fees.

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