Professional Learning and Development after the Active Learning Phase: Case Studies of New Zealand Schools

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Abstract

Internationally recognised as essential for enhancing education and ensuring sustainability across all levels of an educational organisation, professional learning and development is at the heart of effective teaching practice and the promotion of positive student outcomes. Therefore, it is reasonable to expect that schools implement effective processes to evaluate the impact(s) of professional learning and development on teachers, as well as the resultant effects on students' learning outcomes. However, there remains a notable gap in comprehensive evidence from various studies that provide valid conclusions regarding the effectiveness of professional development, with only a few studies reporting the correlation between professional learning and development and improvements in student outcomes (Baird & Clark, 2018).

The evaluation of the effects on professional learning and development is regarded as an ongoing process. During the active adult learning, evaluation should occur at multiple checkpoints to gauge its impact on both teachers and students. Consequently, it is imperative to investigate the space following the completion of the professional learning and development, considering mainly three key areas: firstly, how schools evaluate any sustained impacts of professional learning and development on teachers; secondly, which expectations schools have for reporting the outcomes of professional learning and development; and thirdly, which elements enable or hinder the effectiveness of professional learning and development in the workplace.

Utilising a mixed methods research design, this study employs a sequential approach to data collection, incorporating both quantitative and qualitative results from a survey and semi-conducted interviews with participants from three schools in Aotearoa New Zealand. The key findings reveal that design of professional learning and development partially aligns with frameworks suggested in the existing literature. Furthermore, follow-up processes are an integral recognised part of PLD design, school strategic goals are aligned with the PLD activities, and while improvements in student learning are perceived, they are not formally evaluated. The main barriers to effectiveness include the lack of sufficient time allocated to delve deeper into new learning and the need for differentiated learning opportunities.

In response to these findings, this study offers recommendations for future PLD design aimed at bolstering the effectiveness of PLD in New Zealand schools. These recommendations advocate for the incorporation of established theories of professional learning into the design of programme, an expanded integration of teacher agency, and the implementation of a robust accountability system. By embedding thorough follow-up processes within the overall school

structure, the effectiveness of learning, retention, and transformative changes in teaching practices may be significantly enhanced over time. Additionally, providing longitudinal evidence of the effectiveness of new practices would greatly benefit the planning of targeted Professional Learning and Development in schools, the refinement of models and framework of PLD in the domain of follow-up by the research community, and policy makers in the educational context.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor used artificial intelligence tools or generative artificial intelligence tools (unless it is clearly stated, and referenced, along with the purpose of use), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of learning.

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Completing this thesis would not have been possible without those people involved with my passionate pursuit of learning. The choice of digging into Professional Learning and Development is thus not surprising. I love learning, learning effectively, learning for sharing the learning, enjoying learning and having other people enjoy it. I want to do it well. Above all, I love experiencing the learning of students and for this I must learn better ways.

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Abbreviations

PISA	Program for International Student Assessment
SMART	Specific, Measurable, Achievable, Relevant, Time-Bound
STEM	Science, Technology, Engineering, Mathematics

The most socially useful learning in the modern world is the learning of the process of learning, a continuing openness to experience and incorporation into oneself of the process of change. (Rogers, 1969, 15)

1 Introduction

Educational frameworks and policies consistently stress the necessity for high-quality Professional Learning and Development (PLD) as a means to enhance teacher practices *effectively*. Recognised internationally as a critical component for educational improvement and sustainability across all levels of an educational organisation (Bassett, 2016; Bennett et al., 2003; Guskey, 2021; Hamilton, 2018; Timperley et al., 2007), it is imperative for educational organisations to have an effective system in place to evaluate whether PLD is fit for purpose. However, many educational organisations lack an accountability system in the design, implementation, and measurements of outcomes of PLD (Guskey, 2021). Consequently, it is essential to consider what transpires after the learning phase is completed, particularly whether changes of practice take place and whether the changes create opportunities to enhance the students' learning outcomes.

Motivated by my observations in practice, I was prompted to conduct three case studies to explore the space after the learning phase in three schools in Aotearoa New Zealand. As a middle leader, part of my role entails following up the professional development and the progress of team members. Despite my limited time, this process includes understanding how their reflections prompt changes in practice and how they apply new learning in the classroom to positively impact their students. However, the dynamics of observing these changes can prove challenging, as they may not manifest immediately after the new learning occurs, or the new knowledge may not be readily embraced by the teacher. My experience across different school systems has sparked questions regarding the effectiveness and accountability of PLD systems, as well as the tangible impact of PLD on both teachers and students, particularly concerning the application of the newly acquired knowledge. Given that a school invests in PLD for its staff, it is only reasonable that the school/stakeholders seek clarity on how that time and money are utilised. The follow-up, the space after the learning phase (i.e. PLD) is considered in this study as a critical element for ensuring the implementation of new learning and for measuring associated outcomes effectively.

This chapter will commence with an introduction to the research context, addressing the challenges encountered in evaluating the effectiveness of PLD as presented in the literature. It will then briefly describe my personal experiences before concluding with the aims and the research questions that guided this research.

In recent years, educational headlines, world-wide, have predominantly focused on unsuccessful achievement results, overshadowing positive outcomes. The PISA's 2022 results (OECD, 2023) clearly indicate a downward trend in literacy and in numeracy results across participating countries, a concerning trend evident in New Zealand (Hughson & Hood, 2020). This situation prompts a legitimate question: "How did this state of affairs occur?" as most first-world OECD countries are investing considerable resources into enhancing teachers' capabilities with the ultimate goal of improving student success. Additionally, there is mounting pressure from governments on educational organisations to be accountable and provide evidence of educators' competencies. This pressure mainly comes in two forms. Firstly, the establishment of national standards serves as a metric for gauging teacher skills, ensuring a quality assurance mechanism that promotes educators' abilities to foster student success. In Aotearoa New Zealand, the Standard of Professional Learning mandates that teachers "engage in professional learning and adaptively apply this learning in practice" (Education Council, 2017). Secondly, PLD opportunities are often mandatory obligations with links to both national and school goals, while also addressing school contextual issues and/or individual needs to ensure that recognised professional gaps are addressed through internal and/or external support. In the context of Aotearoa New Zealand, individual PLD frequently takes the form of the inquiry-based approach (ERO, 2012), a reflective personal practice aiming to improve the outcomes of students through a personal inquiry.

The literature consistently describes the notion of PLD as a vital component in education, creating opportunities to impact, change, and improve teaching and learning practices to enhance learners' progress. As such, one would expect that schools have an effective system to evaluate and ensure that PLD is reliable and fit for purpose. Consequently, if the desired impact of PLD is expected to be the improvement of outcomes in the students' learning, it is imperative to first evaluate the effectiveness of the planned PLD before implementation within the PLD programme. Following this, one must observe and document changes in teachers' practice and, finally, measure the impact of these changes on students' learning. However, evidence provided in studies on the effect(s) of professional teacher inquiry on teachers' learning, and subsequently on students' learning, is scarce (Lim et al., 2022), raising further questions on the matter.

In identifying nine models of continuing professional development (CPD), A. Kennedy (2005) pointed out that the main factor influencing the effectiveness of CPD is "the manner in which [the] new knowledge is used in practice" (p. 238). However, there remains a notable scarcity of empirical studies that focus on understanding how this newly acquired knowledge impacts the students as a secondary effect, on investigating the changes in teaching practices resulting from PLD activities, and on assessing the correlation between acquiring new knowledge, the transformation of practice, and the subsequent positive impact on student outcomes as highlighted in the works by Ansyari (2020), Baird and Clark (2018) and Merchie et al. (2018). As reported in M.M. Kennedy (2016), research studies that report improvement of student outcomes are often conducted within restricted contexts, such as year level or subject taught. These studies typically utilise measurement tools designed specifically for a particular PLD initiative, without adequately considering the potential influence of a wide range of external factors.

Despite the literature predominantly focusing on evaluating the impact of PLD on teacher learning and/or teaching, most recently researchers acknowledge the paucity of adequate results as well as the importance of demonstrating more clearly how to measure the *effect* of PLD more consistently and identifying the factors that may influence the results (Ansyari et al., 2020; M.M. Kennedy, 2016; Sim & Fletcher, 2021). The policies governing educational outcomes frequently favour standardised national assessment systems to assert these outcomes, which, while useful, cannot reveal the tangible growth and gains that teachers observe in their classrooms. This is not to say that PLD does not have its place in improving and changing teacher practice. However, to say that it is the silver bullet for improving students' learning and achievement is an overstatement unsubstantiated by past and current research.

1.1 Rationale

Within the above-mentioned research studies, the two most notable ongoing omissions persist in contemporary publications:

(1) the gap in reporting clear and positive evaluation of the *effect(s)* of PLD on student outcomes; and
(2) a failure to acknowledge the complexity and the multitude of factors influencing these outcomes.

Given this context, I deem it essential to investigate the space following the Professional Learning and Development (PLD) by asking "What do we do with PLD once we, teachers, are done with the learning phase?" This query is particularly pertinent as governmental policies, in Aotearoa New Zealand and often presuppose a direct correlation between the impact of the PLD on teachers and the improvement on student learning. While educational frameworks and policies advocate for high-quality PLD that can improve teacher practices *effectively* and consequently influence student success, professional experiences and pertinent literature have posed several questions that will be addressed briefly below and in-depth in the following chapters. Notably, the assumption of a correlation between enhanced teacher learning and improved student outcomes lacks robust evidence, in addition of educational organisations not having adequate instruments at their disposal for evaluating the impact of PLD on both teachers and students (Guskey & Yoon, 2009). Moreover, since the process of learning is considered complex, involving cognitive processes, contextual professional factors, and the teacher's intrinsic motivation for learning, it is challenging to identify a direct translation from enhanced teacher performance to improve student achievement.

The divergence between theory and practice was recognised by Dewey (1904) and has persisted throughout the 20th century. Despite having abundant knowledge about how teaching works and how it could be made more effective to impact learning, the challenges surrounding the application of this knowledge are still perduring (Korthagen, 2017). The move in recent years towards focusing specifically on the link between theory and practice has benefitted the development of a deeper understanding of '*how teachers learn and grow'* rather than of '*what teachers need to do'* in the hope of closing the gap and improving the link between theory and teaching practices (Evans, 2014; Fowler et al., 2022; M.M. Kennedy, 2016).

Although well-respected and supporting a number of effective processes regarding to professional learning, the New Zealand Ministry of Education Best Evidence Synthesis by Timperley et al. (2007) restricted PLD on effectiveness in their synthesis by describing the learning phase as a three-part cyclic process. Process 1 is when the teacher examines their needs and is aware of their own prior knowledge in regard to the students' learning needs. Process 2 is recognising the new information or skill and adapting or integrating it into the current practice to positively promote student outcomes. Process 3 is the adoption or rejection of the new learning by gauging the impact value of the teacher's new actions. However, the synthesis does identify how to gauge the impact value and the characteristics of the teacher as a whole and the students' needs more objectively, even though these parameters are known to be influential (Evans, 2011; Merchie et al., 2018). Therefore, it seems fitting that researchers

address the cognitive processes of learning, the beliefs of teachers, and their motivation, to understand possible barriers to learning and by extension the retention and application of PLD in practice without which, as mentioned in Korthagen (2017), “teaching practices are no more than a shot in the dark” (p. 388).

Whilst the concepts of the science of learning, teacher beliefs, and motivation are presented in Chapter 2, they do not constitute the main scope of this study. Instead, they are vital pathways to understanding. Firstly, to understand how measuring the impact of PLD on teachers can be influenced by a wide range of complex factors and, secondly, to understand the significance of carefully interpreting improvement of teachers’ practice and the impact on learners in research findings as a result.

The existence of only a few studies that report the effects of PLD associated with improvements in students’ outcomes (e.g. Baird & Clark, 2018) and the lack of sufficient evidence from a range of studies reporting valid conclusions on the effectiveness of professional development (see Guskey & Yoon, 2009), underscore the necessity for an evaluation of PLD, its implementation, and practice in classes, if the ultimate goal of PLD is believed to be the improvement of outcomes in the students’ learning. Therefore, one aim of this research is to investigate the evaluative processes in schools to gain insight into the effectiveness of PLD activities in facilitating teachers’ professional learning and development.

1.2 Personal experience

As an educator and leader, one of my primary concerns is the impact of teachers’ practice on the learning of students. For example, my reflective practice enables me to identify issues, such as student engagement, which in turn prompts me to identify the need for changes and to explore solutions. These solutions mostly arise from external professional development workshops within or outside the school, participating in mini-courses, and undertaking personal reading. However, it is noteworthy that teachers like myself who specialise in international languages in a secondary school, do not often have the opportunity to collaborate with colleagues, as they frequently serve as the sole language teacher in their school. Thus, the so-called collaborative practice for this learning area is less likely to occur internally.

After years of practice, my questions still remain: ‘Would it be objective to say that PLD success can be measured solely through personal observation and the corresponding progress reflected in students' grades? Does learning improvement take alternative forms that current policies are

not considering?'. This non-exhaustive list of questions, along with recent university coursework on the significance of professional learning and development for middle leaders, has led me to consider the discernible gap between the realities of our educational practices and the methods employed at the administrative level of an educational organisation to measure the impact of PLD on both teachers and students.

Over the past decade, with the exception of one PLD activity, none of the courses I have engaged in have provided follow-up beyond the PLD event itself. Within the educational organisations which I have worked, I have been asked to evaluate the quality of the PLD, to consider how I could implement the learnt information for the benefit of my practice or that of my colleagues, and to outline how the PLD could improve student outcomes. Indeed, some organisations have not even collected information about the time spent engaging in PLD away from teaching. Furthermore, none of the educational organisations had an accountability check system to understand what changed in my practice as a result of participating in a PLD activity and how these changes have influenced my students.

Considering the New Zealand government's budget allocation of over $147 million for teacher Professional Development and Learning (Treasury, 2024) for the 2024-2025 fiscal year, aimed at enhancing teachers' capability and improving student outcomes, it is essential to question how this expenditure is being implemented and measured. Although this question is beyond the scope of this study, my position is that educational organisations should ensure that, after a PLD activity, a thorough understanding of how changes in teaching practice lead to shifts in practices that ultimately impact student learning. The knowledge, skills, attitudes, and dispositions of teachers have significant implications for the success of their students. From this standpoint, professional learning represents a substantial investment in the development of human capital, intended to improve and ensure instructional practices filter through to shifts in student outcomes.

1.3 Aims of this study

The primary objective of this study is to provide insights on the processes established in three schools in Aotearoa New Zealand to assess the effectiveness and the impact of the professional learning activities on teachers and students. As mentioned earlier, previous literature has highlighted a concerning trend where schools overlook the evaluation process (King, 2014). Such evaluation is pivotal to fostering growth and improvement in teachers, students and in

educational organisations as a whole. By examining these evaluation practices, this study seeks to contribute to the ongoing discourse on enhancing educational outcomes through targeted professional development and reflective practices.

1.4 Research questions

In the search for a deeper understanding of schools' evaluation processes, this study is informed by the primary research question:

> How effectively do schools evaluate any ongoing impact of professional learning and development on teachers?

This overarching inquiry leads to the development of sub-questions that delve into two research areas: (a) the comprehension of the effectiveness of Professional Learning and Development within the local and international research contexts; and (b) the expectations and evaluation associated with Professional Learning and Development within educational organisations, as presented in Table 1.

Table 1

Inquiry Questions

Research on Professional Learning and Development	How does research characterise the effectiveness of Professional Learning and Development immediately and over time? This question also includes looking at what is characteristic of ineffective PLD.
Expectations and evaluation of the Professional Learning and Development in educational organisations	What expectations and systems are in place to evaluate the effectiveness of teachers' PLD and how this is used? This question looks broadly at how schools link their goals with PLD courses/workshops (whether internally or externally delivered).
	What enables and hinders teachers from associating their professional learning and development with improving student learning? This question looks at the expectations from the schools in reporting the effectiveness of PLD (i.e. learning), how it is reported (i.e. measured), and how teachers know it makes a difference. To extend this question further, how is PLD perceived and valued and who benefits more from it (e.g. Effective for who?) are aspects that may be worth considering in this investigation.

Note. Table of inquiry questions as presented for the postgraduate research proposal.

Upon discovering McChesney et al. (2024) three weeks before completing this thesis, I found their observation encouraging. They highlighted the need to broaden research in the area of professional learning and development and, specifically focusing on aspects such as "policies and structures", to address testing "theories of action to establish connections between teachers' practice, professional development, and goals for students", as well as investigating "teacher agency, accountability, improvement, and sustainability in schools over longer time scales" (p.478-479). Thus, by addressing the present inquiry, exploring relevant literature, and analysing the collected data in light of the present scholarship, this study aims to improve our understanding of how educational institutions evaluate and enhance the professional growth of their teaching staff. Additionally, it seeks to uncover best practices, barriers to effectiveness, and key elements that a school must consider to support the learning changes of their teaching staff. Furthermore, this study aspires to contribute to the body of research in the field of professional learning and development, particularly regarding the space that follows the completion of the active phase, as discussed in Chapter 5.

1.5 Thesis outline

Chapter 1 has introduced the research context, outlined the focus questions for this study and asserted their significance. Chapter 2 provides a critical review of the existing literature, structured into five main sections. Section 1 introduces the importance of understanding adult learning principles and potential barriers that teachers may face. Section 2 covers the definition of PLD and clarifies how it is defined in this work. Section 3 presents the principal models and conceptual framework relevant to PLD and Section 4 considers what constitutes an effective model or framework of PLD. Finally, Section 5 reviews the concepts of evaluation, accountability, and outcomes.

Chapter 3 outlines the research methodology and details the methods of data collection in this study, addressing reliability, validity, and ethical considerations. Following this, Chapter 4 presents the findings systematically, beginning with the results of the survey and then analysing the interview data.

The findings are subsequently discussed in Chapter 5 with connections made with the literature reviewed in Chapter 2, additionally outlining the limitations of this study. Finally, conclusions are drawn from the findings, along with comments that offer a contribution to the field of

Professional Learning and Development in the field of education. The chapter finishes with recommendations as a form of conclusion of this study.

2 Literature Review

For more than 20 years, empirical research studies and meta-analyses have articulated the importance of Professional Learning and Development of teachers to achieve professional growth and educational improvements (e.g. Guskey, 2003; Hattie, 2009; Muijs & Lindsay, 2008; Sims et al., 2023; Timperley et al., 2007). Most studies focus on the following rationale: quality teaching is the central tenet to the success of learners. To maintain a high level of quality teaching in an ever-evolving educational system, educational organisations rely heavily on teacher professional development. It is, therefore, important that the professional development offered to educators be effective. However, recent research shows that it is still not as straightforward to (1) evaluate the quality of PLD in regard to impact on teacher learning and (2) to measure the impact of teacher learning via PLD on student outcomes (McChesney & Aldridge, 2019; Merchie et al., 2018). This chapter starts by highlighting the importance of cognitive science and the science of learning, and their implications for PLD effectiveness, it continues by clarifying definitions of professional learning and development in the context of education. A typology landscape of the most cited framework used to define PLD effectiveness is then presented which will lead to look at the characteristics of PLDs. The chapter closes by presenting the issue of evaluation in general, the evaluation of the effects, and the outcomes of PLDs. The proposed order offers a logical topology representation of how each section is subsequently interrelated. In particular, as Evans (2014) argues in the context of the education field, it is necessary first to have an in-depth understanding of what constitutes adult learning.

2.1 Learning as an adult

The literature concerned with PLD as a process and a complex system has its source in cognitive science and the science of learning, that is, how people learn. Notably, there is a need to better understand the cognitive processes by which someone experiences a learning ‘episode’ in the professional context. Evans (2014) highlights the complexity of the learning process and its importance when dealing with PLD, a system that includes “the work environment, and individual cognitive and psychological states in the learning process” (Smylie (1995) as cited in Evans, 2014, p. 183). Research concentrating only on processual models and conductive conditions oversimplifies the interpretation of the PLD and describes the impacts on teachers’ learning as immediate without taking into account the complexity of learning and

surrounding factors. Evans (2014) argues that looking into the invisible part of learning (i.e. the cognitive process) adds a very important layer to our knowledge of how individuals develop professionally and gain a multi-dimensional understanding of PLD to facilitate an effective, long-term retention acquisition of knowledge, that lead to a change of practice. She offers the following definition of cognitive process which illustrates the complexity of the matter:

> the enhancement of individuals' professionalism, resulting from their acquisition, through a consciously or unconsciously applied mental internalisation process, of professional work-related knowledge and/or understanding and/or attitudes and/or skills and/or competences that, on the grounds of what is consciously or unconsciously considered to be its/their superiority, displace(s) and replace(s) previously-held professional work-related knowledge and/or understanding and/or attitudes and/or skills and/or competences. (Evans, 2011, p. 864)

Bélanger (2008) starts his introductory chapter by positing pertinent questions that different theories of learning have tried to answer, such as:

- What does it mean to learn?
- What goes on in our minds when we acquire or mobilise new knowledge and skills?
- What is the significance of past experience and of informal learning?

These theories have taken different interpretations and led to diverse responses depending on the learning theories, namely, the behaviourist theory, cognitivist and socio-cognitivist theories, and constructivist and socio-constructivist theories. Building on these theories, recent theory approaches, closer to the learning process of adults, include the humanist learning theory, the experiential learning theory, and the transformative theory. Attempting to classify these learning theories is a difficult task which is outside the scope of this work. As teaching adults is not similar to teaching students, central to an understanding of PLD is the importance of assessing effectiveness and measurement of PLD on teachers, and the learning processes involved, from learning to implementation in the classroom.

Thus, and in essence, for behaviourism, learning is mainly described as a conditioning which takes place through reinforcement and can only be explained by observable phenomena. For cognitivism and socio-cognitivism the accent is on cognitive processes (e.g. reasoning). They are concerned with inner processes, the ability to make relationships between different parts of the knowledge and find solutions. To some extent, these processes could be compared to the development of language acquisition from birth where speaking moves from simple sound recognition to forming more complex sentences through trial and error. For linguists, there is a difference between acquisition and learning a language. Language acquisition is more akin to

an instinctive and unconscious mental capacity while learning is a more conscious act (Chomsky, 1999; Ellis, 2005; Krashen, 1982). In the present context, learning is understood as a mental retrieval process based on already-acquired notions that permit the learner to act. Constructivism emphasises that "learning is a process of constructing meaning; it is how people make sense of their experience" (Merriam & Caffarella, 1999, p. 261) in an authentic teaching context (Bélanger, 2008), that is, constructing new meaning from new experiences. The socio-constructivist approach adds the notion of active construction of knowledge which is dynamic and interactive within a community of practices (Wenger,1998). In other words, learning is constructed socially, collaboratively, rather individually (Bandura, 1986). Finally, the mention of transformative learning is of actuality as it is used in recent studies on leadership to refer to 'transformative leadership'.

Mezirow (1991) does not define learning as being centred on acquiring new knowledge but "to develop new glasses to look differently at reality and existing knowledge" (as cited in Bélanger, 2008, p. 44). His theory implies a cyclical and ongoing process which involves questioning and/or challenging personal beliefs as well as reconsidering assumptions in order to change a framework of interpretation. Although the transformation theory of learning is often contrasted with the deep approach theory of learning of John Biggs, both theories can be said to be similar from an epistemological point of view as they take the stand that knowledge "is a social construct and that learning is a socially constructivist engagement" (Howie & Bagnall, 2015, p. 354). Bélanger (2008) concludes that these various theories, albeit sometimes in opposition, are building and expanding on each other, with overlapping and convergence to some degree. Ultimately, "(l)earning is not only about acquiring knowledge, but also about mastering the various modes of acquiring, retrieving, testing, constructing, and mobilising new knowledge" (Bélanger, 2008, p. 50), something that is not always transparent in PLD design. In addition, conscious versus unconscious process in relation to learning is not agreed upon by all, nor are views on learning theories fully satisfactory (Alexander, et al., 2009; Dinsmore, 2017; Evans, 2019).

Following on this matter, another theory worth mentioning is the 'deep approach theory of learning'. As with the transformational theory, both theories are concerned with learning at a deep level and the impact of this learning on the learner as well as positing learning as being a socially constructivist engagement which is therefore anchored in social interactions (Howie & Bagnall, 2015). Learning is considered to be deep, when the learner is able to make a meaningful interpretation of an experience and the cognitive processes "[focus] on underlying meanings, on main ideas, themes, principles or successful application" (Howie & Bagnall, 2015,

p.351). The theories also consider the learner as being responsible for their learning and being autonomous individuals. Essentially, intentionality is an important factor in the process of learning that may take different degrees of objectives which in turns result in different outcomes. This is equally supported by Evans (2014) who interprets the act of learning as a process done at the conscious level (e.g. realisation of a need, reflection) which also happens at the unconscious level, a learning that evolves overtime and at different speeds. Like Bélanger (2008), Evans (2019) argues that learning takes time to be regurgitated and then implemented (e.g. acquiring, retrieving, constructing) and that new ideas may supplant old ideas to dilute or augment the newly acquired learning.

Myran and Sutherland's (2019) synthesis of some 80 literature works uncovers two main interrelated concepts: Concept 1 refers to learning as "dependent on the active and deliberate agency of the learner and a host of introspective outlooks and behaviors, [and Concept 2 focuses on individual learning characteristics that] are reciprocally situated within complex and dynamic social contexts that serve to mediate and shape the construction and co-construction of knowledge" (p. 671). The notions of active and deliberate agency, self-efficacy, and motivation are seen as sustaining and prompting the learning process in an individual. Linked to the dynamic of social contexts, the learners are not exclusively determined by environmental influences, but they are active agents that engage voluntarily in learning (Bandura, 1997, 1999; Howard, 1985), a phenomenon that may be labelled as 'self-directed learning' in the literature.

Referring to self-directed learning theory for teachers and students, Bolhuis and Voeten (2004) point to four conceptions of learning: "(1) self-regulation of learning, (2) learning as active construction of knowledge, (3) the social nature of learning [linked to self-directed learning] and (4) a dynamic view of intelligence [linked to] motivation for" (p. 78). They view learning as a dynamic process where the learner is somehow conscious of the need for performance improvement which we can refer to as internal motivation. Although their research sample is not particularly large (260 teachers), they found empirical evidence that teachers see their learning as a dynamic, collaborative process. More interestingly, the notion of 'tolerance for uncertainty' in learning results was quite low, suggesting the need for visible structural support at the level of the educational organisation to enable learning over time.

From the perspective of psychology, Alexander et al. (2009) refer to learning as "ever-changing interactions among learner characteristics, what is to be learned, the context and situations in which learning occurs, and the always present countenance of time" (p.176). Their topological perspective provides a deeply ingrained understanding of the contemporary theories and finds a common ground to reliably capture the multiple facets of the learning processes. This results in

them positing nine principles (see Appendix A) interrelated to four dimensions (i.e. what, where, who, when), where two of these principles are recognised as barriers to learning. According to the authors, the two dimensions 'what' and 'who' will in turn be influenced by the 'where and when' dimensions as these dimensions are ever changeable. Their representation of learning illustrates a complexity which needs to take into account 'build-in' abilities and capacities of each individual at birth, acquired habits and conditioning, spontaneous concepts and actions (informal interactions with the world) and the scientific concepts and practices (formal education) that form a dynamic system (Alexander et al., 2009). In addition, learning is also dependent on social and cultural influences which will influence the processes and the outcomes of learning in individuals. Over time, individual learning becomes increasingly complex as the objects of learning also increase in complexity. Similar to the language acquisition example discussed earlier, learning evolves from foundation to expert level, where the expert level requires not only thousands of exposures to language, but also, the integration of these exposures into inner, unconscious cognitive processes, something that is done over a long period of time, to enable retrieval and application of knowledge. Taking the well-known illustration of the iceberg, the visible tip is the outcomes of the processes of learning – the application in the context of the PLD, for the present work, the learning activities proposed to educators.

For these reasons Evans (2014, 2019) advocates for a thorough understanding of learning to investigate and take into account the implicit as well as the informal PLD events that are equally part of the learning. By implicit, we may understand "a learning process where people do not realise that the activities they are undertaking or the processes they are involved in, can or will lead to changes in knowledge, skills, attitudes and/or learning ability" (Simons & Ruijters, 2004, p. 213). By informal, we recognise acts of learning that take place in a wide variety of contexts that are not necessarily occurring in the formality of the educational organisation or course. These can be described as informal intended or informal unintended learning acts from taking time with a colleague to sharing practice or moderating work, and to questions *in passing* to colleagues (Evans, 2019). What Vygotsky (1978) calls the internalisation of the learning is the result of not only the explicit and formal learning events but also the result of implicit and informal learning events over time.

Ultimately, proposing a definition of learning is complex and multi-faceted as it involves more than the 'what' of the learning as seen so far. One definition that in my view embraces well the complexity of learning is the following:

> Learning is a multidimensional process that results in a relatively *enduring change* in a person or persons, and consequently how that person or persons will perceive the world and reciprocally respond to its affordances physically, psychologically, and socially. The process of learning has as its foundation the systemic, dynamic, and interactive relation between the nature of the learner and the object of the learning as ecologically situated in a given time and place as well as over time. (Alexander et al., 2009, p.186, emphasis added)

2.2 What is Professional Learning and Development?

In investigating learning in the context of leadership in education, Myran and Sutherland (2019) find a lack of conceptual definitions of learning, noting that this weakness can lead to assumptions about what constitutes learning in the educational leadership field along with producing failed reforms without a strong framework of understanding of the science of learning. In general terms, professional development is often defined as personal professional growth that will enhance existing skills as well as learning new skills. Being involved in professional development can have as outcomes a particular career path or it can be imposed by the employer.

In any educational organisation, the words continuous process, self-awareness, and reflection are often mentioned in professional development initiatives. Central to professional development is the impact on teacher learning, but it is the effect of PLD on student learning that should be targetted . On the New Zealand Educational Leaders online platform, the definition of PLD is given as follows, note the emphasis on 'learning' rather than 'development':

> Teacher professional learning is an ongoing cycle that begins with schools identifying the educational outcomes they value for their students. Then they need to identify the knowledge and skills that teachers need so that students can bridge the gap between current understanding and the valued outcomes. (Timperley, n.d.)

Although the professional development of teachers is exposed in various ways in the literature, the core tenets are essentially about learning how to learn, adopting new knowledge, and applying it to new practice in order to change one's own practice and permit student growth (Avalos, 2011). Guskey (2000) broadly defines professional development as "those processes and activities designed to enhance the professional knowledge, skills, and attitudes of educators so that they might, in turn, improve the learning of students" (p. 16) adding, for the purpose of his discussion, three characteristics: (1) It is an intentional process, (2) It is an ongoing process, (3) It is a systematic process. These characteristics are also relevant in

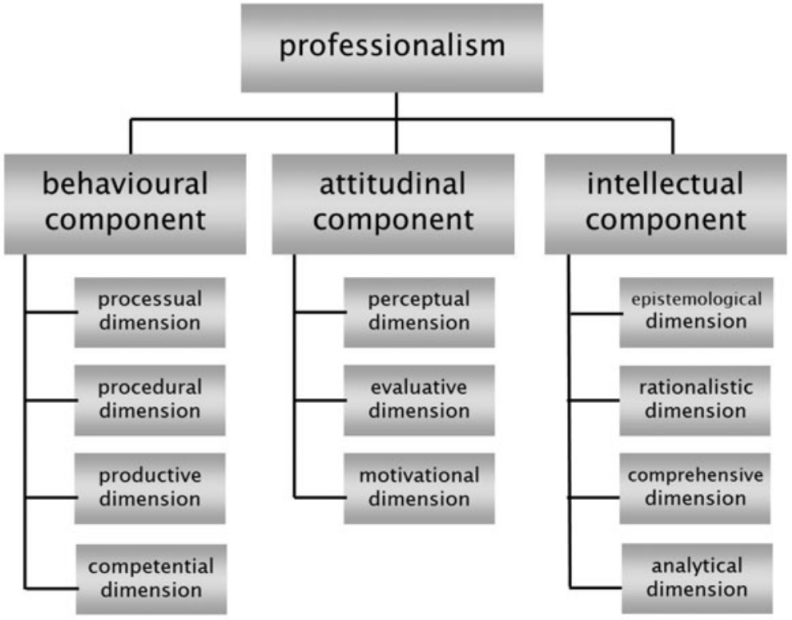
Timperley et al. (2007) in the New Zealand Ministry of Education's Best Evidence Synthesis series.

However, defining precisely the real nature of professional development proves to be more complex. Professional development may take a narrow perspective or a broader perspective of what it entails (Avalos, 2011; Evans, 2019; Merchie et al., 2018; Timperley, 2008). In their literature review, Sancar et al. (2021) note that present studies do not generally provide an unambiguous definition of professional development. This view is supported by Evans (2014, 2019) when she insists on the importance of conceptualising and defining professional development in research. She proposes examining the concept of PLD holistically to disambiguate the terminology and understand exactly what PLD is and what makes it effective. To justify her points, she quotes Freidson (1994): "We cannot develop theory if we are not certain what we are talking about (…). One cannot study process without a definition guiding one's focus any more fruitfully than one can study structure without a definition" (as cited in Evans, 2019, p. 6).

Therefore, in order to define professional development, we need to define what is conceived of or referred to as PLD. Evans (2019) considers it pivotal to first define the notion of *professional* in order to determine the notion of *development*. Note that the author considers professional development only in relation to the teacher without considering the impact on learners as part of the definition and the conceptualisation processes. Evans' (2019) most current definition of professional development is as follows: "*the process whereby people's professionalism may be considered to be enhanced, with a degree of permanence that exceeds transitoriness*" (p.7, italics in text). This definition underlines the importance of the permanence of learning, a notion that is not often considered in studies promoting PLD as we will see in Section 3 of this chapter, and the pivotal role of 'professionalism'. Her definition of professional development is composed of three main elements: behavioural, attitudinal, and intellectual, each of them encompassing 11 dimensions (for more specificity, see Evans 2008 and 2014 for a full description) as illustrated in Figure 1. Although these three intertwined components are not new per se and reflect closely the view of Bell and Gilbert (1996) who consider professional learning as comprising 'personal', 'social' and 'occupational' dimensions, they demonstrate the complexity underlying the notion of professionalism and the crucial elements to consider when evaluating professional development objectively.

Figure 1

The three componential structure of professionalism



Note. From "Professionalism, professionality and the development of education professional" by L. Evans, 2014, *44*(2), p.190. Copyright 2014 by Taylor & Francis.

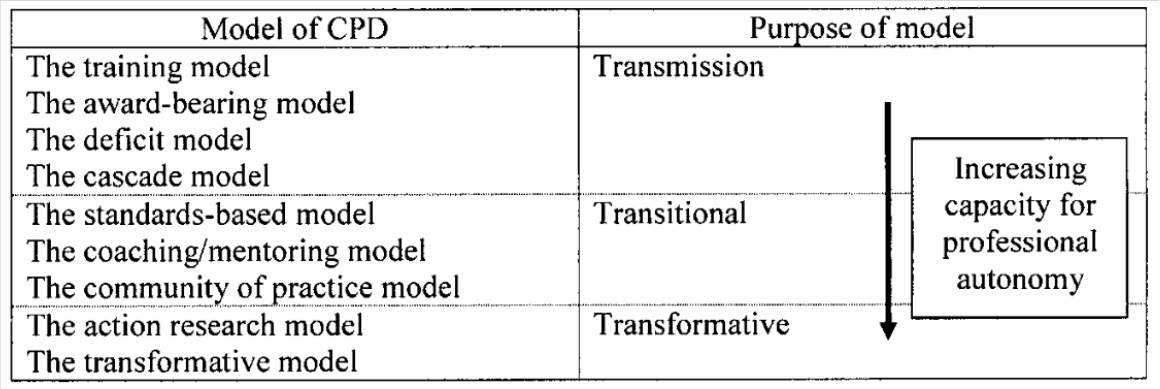
Additionally, in their extensive review, Sancar et al. (2021) identify three dimensions labelled 'Teacher Education', 'Classroom Practices', and 'External Variables'. Under Classroom Practices, the dimensions of teacher characteristics take into account features such as attitude, anxiety, perspective, confidence, and teachers' experience. Their case rests on the premise that professional development has been poorly defined in past and present studies; to be more effective, the definition, and therefore the design and application of PLD, must include a holistic approach.

Continuing professional development is a model of PLD regarded as a key part of a professional growth to enhance the quality of teaching in order to impact student outcomes. The label is mostly used in the UK and USA whilst in New Zealand the Professional Growth Cycle is preferred with the core idea of the Action Research model at its centre. In A. Kennedy's (2005) Framework of continuing professional development (CPD), nine key models are identified and

defined to broadly group models of CPD. In turn, the nine models are organised into three categories: transmission, transitional, transformative as presented in Table 2.

Table 2

Spectrum of CPD Models

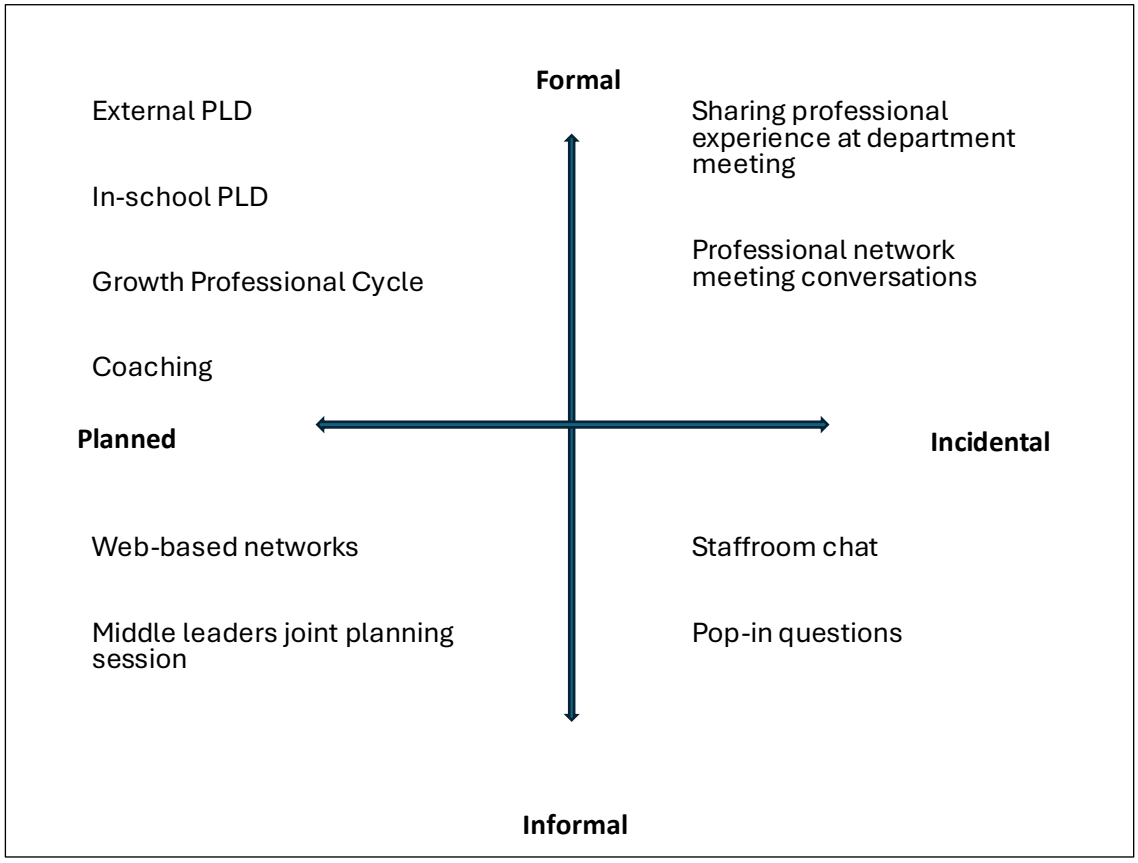


Note. Models presented by Kennedy in 2005, to illustrated how models of continuing professional development increase professional autonomy in a continuum. From "Models of Continuing Professional Development: a framework for analysis.", by A. Kennedy 2005, *Journal of In-service Education, 31*(2), p. 248. Copyright 2006 by Taylor and Francis.

According to A. Kennedy (2005), the "categorisation and organisation of CPD models (...) suggest increasing capacity for teacher autonomy" (p. 248) from transmission to transformative as illustrated in Table 2. Although in this work professional learning is taken as formal opportunities, teachers are exposed to a range of informal opportunities. In addition, these opportunities may be planned or not. Reid's Quadrant (Figure 2) encompasses the various learning opportunities encountered by teachers, that is, the space where and how professional opportunities take place (i.e. the sphere of action, Fraser et al., 2007).

Figure 2

Reid's quadrant of teacher learning



Note. The Reid's quadrants were adapted from the figure produced by Fraser et al. in 2007 to reflect the New Zealand context. From "Teachers' continuing professional development: contested concepts, understandings and models." *Journal of In-service Education, 33*(2), p. 161.

To make the matter even more blurry, the term 'professional development' has taken different connotations and has seen a change in terminology over time. Broadly, the term professional development comprises a range of initiatives specifically designed to support teachers in staying connected with current best practices. These can take various forms such as workshops, seminars, conferences, or self-directed learning, all of which are aimed at enhancing and changing educator practice to meet the needs of learners and improve learning outcomes (Guskey, 2000; Merchie, 2018; Timperley, 2008). Resulting from more refined research, the term 'professional development' has evolved and has taken different labels. The need to differentiate 'professional development' from 'professional learning' or 'continuing professional learning and development' as well as 'professional growth' has raised the challenge of understanding what these terms refer to in the literature (Fraser et al., 2007;

Hoban, 2002; O'Brien & Jones, 2014; Timperley et al., 2007). As mentioned in Fraser et al. (2007), 'development' is likely to be attributed to a broad understanding of some kind of knowledge dispensation and 'learning' being connoted to an internal and critically reflective process consequent to 'professional development'. This view is endorsed by Timperley et al. (2007) where "the term 'professional development' has taken on connotations of delivering some kind of information to teachers in order to influence practice whereas 'professional learning' implies an internal process through which individuals create professional knowledge" (p. 3). They conclude that these terms are intertwined, although they often come under the umbrella term of 'professional development' to mean both professional development and professional learning or individual and group development within an educational organisation (e.g. a school, a subject association). To add to this vagueness, the distinction between formal vs. informal or explicit vs. implicit in research may not be easily teased apart and may restrict the in-depth understanding of the effects of PLD on teachers (Fraser et al., 2007). The literature advocates for the research community to broaden the definition of PLD to include aspects such as social, ethical, and cognitive adult learning processes that are recognised as enabling the growth of the practitioner (e.g. Alexander et al., 2009; Evans, 2019; Richardson & Placier, 2001).

The terms 'communities of practice' (CoP), 'professional learning communities' and 'continuing professional development' have become more common in PLD studies focusing on educators engaging in ongoing learning (Muijs & Lindsay, 2008; Sims & Fletcher-Wood, 2021). However, these terms do not define PLD as such. As seen earlier, they rather concentrate on some elements of effective PLD practices that may have a continuous impact on teacher improvement. Principally, it is based on a model of PLD that involves a group of educators, 'a collectivity' whose approach is to focus on pedagogy rather than content (Gore & Rosser, 2022). The learning 'happens' through ongoing collaboration, reflection, feedback, observation, and engaging in deep conversation about practice. A collaborative culture in an educational organisation is recognised as an indicator of effectiveness, promoting a teacher's long time change in their practice that may impact students' learning and outcomes (Harris & Jones, 2017; Robinson & Lai, 2005, Timperley et al., 2007). For an educational organisation, the implementation of collaborative practice as a routine is not an easy task and schools may encounter more than one barrier when providing such a learning space (Muckenthaler et al. 2020). Despite the postulated benefits of collaboration, teachers are generally not given the time and structure to engage in an intensive form of ongoing collaborative practice that will bring the expected fruits (Muckenthaler et al., 2020; Vangrieken et al., 2017).

2.3 (In)effectiveness of Professional Learning and Development: A typological landscape

Effective Professional Learning and Development (PLD) is recognised internationally as a necessary component in all facets of educational improvement and sustainability at all levels of an educational organisation (Basset, 2016; Bennet et al., 2003; Guskey, 2021; Hamilton, 2018; Timperley et al., 2007). Thus, educational frameworks and policies stress the necessity of quality PLD that can improve teacher practices *effectively*, particularly in times of planned change (Carlyon & Branson, 2018; Le Fevre, 2014; Osborne, 2014). In the Aotearoa New Zealand context, the importance of effective PLD and frameworks as methods and procedures are detailed in the *Teacher Professional Learning and Development BES* (Timperley et al., 2007). However, a question remain: what makes teacher PLD effective to the point that correlations between PLD, teacher learning improvement, and students' outcomes are visible? This is an intended association that is still not well understood (Barohny, 2019; M.M. Kennedy, 2016; Kirsten et al., 2023). In this section, models and frameworks deemed important for this research are presented, highlighting their principles of effectiveness and barriers to effectiveness.

After all, what is effectiveness? The Cambridge and Oxford Dictionaries define effectiveness as the ability to produce successfully the intended or wanted objectives or goals. In the context of PLD literature, effectiveness is mostly defined as the degree of positive impact on teachers which should be measured in relation to the intended criteria before, during, and after the PLD programme. In addition to the earlier presented features, effectiveness can be achieved by aligning the needs or priorities established and clarified at the very outset of the PLD design (Admiraal et al., 2021; M.M. Kennedy, 2016, Merchie et al., 2018; Muijs & Lindsay, 2008). Any framework or model claiming its effectiveness gauging PLD should include as one of the central tenets an evaluation step without which the impact of PLD cannot be realistically measured (McChesney & Aldridge, 2019).

2.3.1 Desimone and Guskey

Desimone's (2009) conceptual framework and Guskey's (2000) professional development model are two of the most cited works in the PLD literature (source: Google Scholar). Both authors highlight core elements that must be taken into account when evaluating PLDs for their effectiveness. However, their perspectives are different in ways that I will discuss later. In recent

years, both Desimone's framework and Guskey's model have been criticised principally for their lack of clarity and for making claims about the effectiveness of PLD improving not only teacher practice but also students' outcomes. The critics focus on the measurements and results of PLD, especially in regard to the minimal impact on improved student learning (e.g. M.M. Kennedy, 2016; Sims & Fletcher-Wood, 2021). Although these critics highlight the shortcomings of using both propositions, they are still used nowadays as frameworks for studies (e.g Veldman et al., 2020).

Guskey's (2000) model is an educational adaptation of Kirkpatrick's business model which was first articulated in 1959. The aim of Kirkpatrick's model was to evaluate the impact of training over four levels – reaction (i.e. satisfaction), learning (i.e. knowledge, skills, and attitudes), behaviour (i.e. transfer of knowledge, skills and attitudes in real-life practice), and results (i.e. benefits for organisations) (Kirkpatrick & Kirkpatrick, 2006). Guskey (2000) adds one significant level to the four levels already established – pupil learning outcomes. To effectively evaluate a professional development programme, it is necessary to collect and analyse evidence over five levels of information. The five levels are defined as follow (see Appendix B for detailed definition of each level):

Level 1: Participants' Reaction

Level 2: Participants Learning

Level 3: Organisation Support and Change

Level 4: Participants' Use of New Knowledge and Skills

Level 5: Student Learning Outcomes

Although Guskey (2002) acknowledges that the relationship between professional development and student outcomes cannot be regarded as simply causal due to a variety of factors such as the context of the organisation, the personal predisposition of the teachers, or the cognitive level of the students, he advocates for the use of his model to identify possible gaps and remedy them by means of targeted PLD programme aiming at the positive impact on student outcomes. Importantly, he mentions that "isolating the effects of a single program" (p. 50) is not viable. Thus, whilst it is central to evaluate the effectiveness of a PLD programme, this can only be done by delineating its scope in a particular context and needs. Moreover, what is interesting in his proposition is the emphasis on planning professional development backwards from Level 5, by identifying what needs to be achieved (e.g. learning gap in numeracy) rather than what should be done (e.g. workshop) or how should it be done (e.g. research group). By starting with

Level 5, the 'where', 'when' and 'with whom' become more situated, focusing on the learners in a particular setting in which outcomes will be 'simpler' to evaluate.

Desimone's (2009) core conceptual framework goal is to enable studies to raise the measurement of "(…) *professional development, and its effects on teachers and students, toward the end of improving professional development programs and policies to foster better instruction and student achievement* (…) (p.182, italics in text). She proposes to retain five features which she introduces as main features based on a "research consensus" (p.183) and supported by studies that take five core features as central to effective professional development (see Appendix C for a detailed description):

1. Content focus
2. Active learning
3. Coherence
4. Duration
5. Collective participation

Underlying Desimone's model is the strong assumption that teacher development, via effective PL that is developed and measured using the core features, leads to a change of practice, that in turn will lead to improvement in student outcomes.

Even though student learning improvement is recognised to a lesser extent compared to teacher learning improvement, Desimone's (2009) framework is still widely cited in studies that attempt to establish a correlation between PLD and improving student outcomes using the model for measuring purposes. It should be noted that more recently, studies, such as Borg (2018), distance themselves from this strict correlation.

Though both Desimone's (2009) and Guskey's (2000) propositions have 'effectiveness' at their core, in scrutinising their propositions, the student outcomes seem to be considered differently. That is, Desimone's (2009) framework is more concerned with the design and implementation of the professional development programme to address the needs of the teachers and then the students, whilst Guskey's (2000) model focuses more on identifying the needs of the students (Level 5) to adopt the most effective professional development. This has the effect of providing a more comprehensive approach in the case of Guskey's model, or so it seems. Thus, Desimone's (2009) framework concentrates on a series of core features that are linked to the 'what' and 'how' of the PLD rather than the 'who' as little is known about the perspectives and *knowledge state* of participants. Instead, Guskey (2000) implies that the participants and the educational

organisation have an undeniable impact on, not only the learning and the outcomes, but also on the choice of PLD.

Another distinct difference between Desimone's (2009) and Guskey's (2000) model framework is how the interaction between components is considered. Desimone's (2009) framework is mostly considered in terms of a cyclical evaluative system (King, 2014; Opfer & Pedder, 2011) and Guskey's (2000) model mostly as a hierarchical evaluative system (Merchie et al., 2018). Even so, it is unclear how the student outcomes are influenced by the different layers of both the framework and the model.

2.3.2 Other frameworks

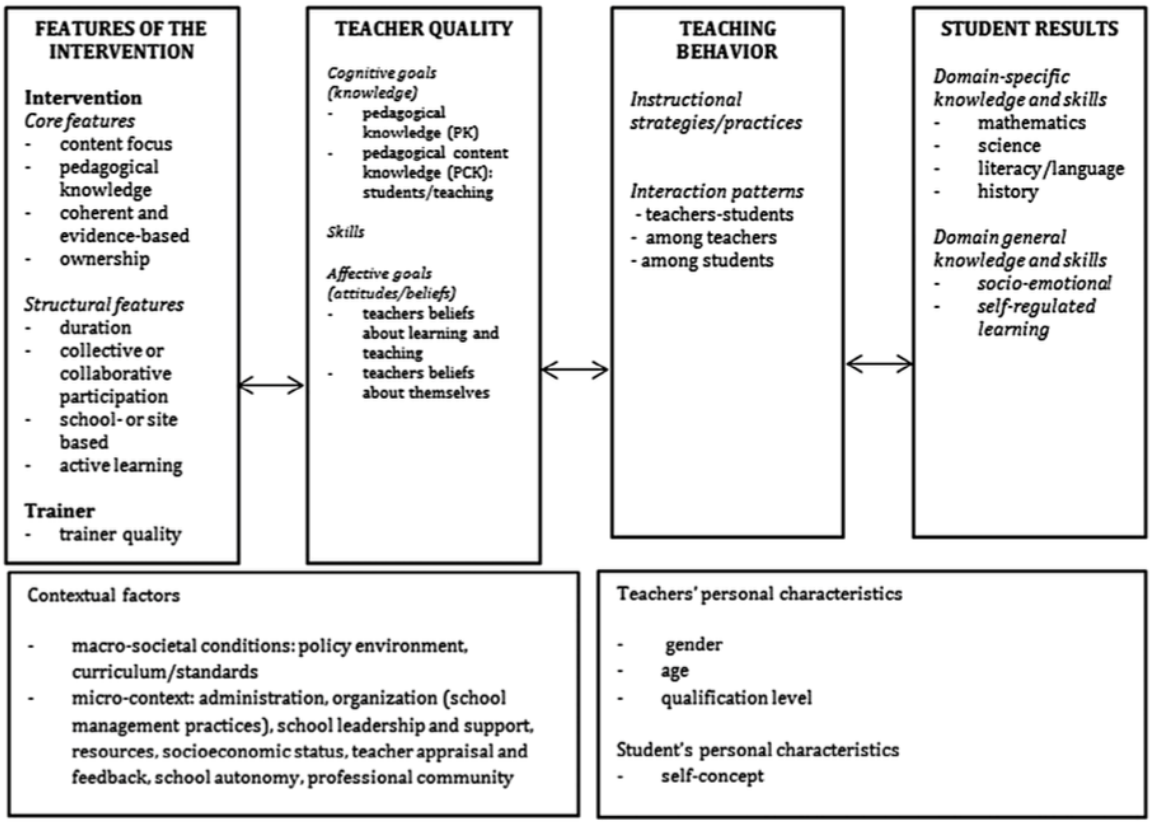
King (2014) and Merchie et al., (2018) both point out that although models and frameworks have been developed over the past 25 years, we still have not reached a satisfying integrated framework to help us to make informed decisions. Merchie et al. (2018) propose an extended evaluative framework by "interweaving research on PD outcomes and PD evaluation models" (Merchie et al., 2018, p. 143) to answer two challenges:

> (1) the lack of a more detailed and fine-grained framework of possible Professional Development Initiatives (PDI) outcomes to conduct PDI evaluation in a focused way and (2) information on how to evaluate these different PDI outcomes in a systematic way using various measurement instruments. (Merchie et al., 2018, p. 146)

To address the two challenges, they further developed Desimone's framework by incorporating subcategories identified through their systematic literature review. This resulted in an expanded framework consisting of four core features (Features of the intervention, Teacher quality, Teaching behaviour, Student results), contextual factors, and teachers' personal characteristics. Each component is discussed in turn providing a detailed description with subcategories (see Figure 3). Notice that an 'intervention' refers to various forms of professional development. To answer challenge (2), the authors compile a list of tools that can be applied to each of the components offering the pros and the cons of using quantitative and/or qualitative tools. They call attention to the importance of using data collected with different tools (e.g. data triangulation) to ensure reliable and high-quality results. Although the study is not void of limitations, the extended framework has attempted to unify the view on core features of PLD evaluation (e.g. Desimone, 2009) and evaluative models of PLD (e.g. Guskey, 2000), providing a comprehensive guide for practitioners when deciding on components to be measured.

Figure 3

Extended evaluative framework for mapping the effects of professional development initiatives



Note. From "Evaluating teachers' professional development initiatives: towards and extended evaluative framework." By E. Merchie, M. Tuytens, G. Devos and Vanderlinde R. (2018). *Research papers in education, 33*(2), p. 152). Copyright 2018 by Taylor & Francis.

According to Ansyari et al. (2020), studies that use data to examine the effects of PLD on teachers and students primarily focus on teachers and fail to provide conclusive evidence regarding the impact of PLD on student outcomes. To remediate to this state of affairs, the authors suggest further developing the models of Desimone (2009) and Merchie et al. (2018), incorporating complementary literature to propose a new framework for evaluating the effects of data use on PLDs on both teacher and student outcomes. This framework consists of three domains: intervention (input), practice (process), and impact (output). Each is described in detail and evaluated at every stage. The framework should be viewed as a cyclical process from input to output and vice versa, highlighting the interrelationship among the components. The unique context, such as a secondary school located in a disadvantaged economic area, affects all aspects of the framework, influencing the decision-making process related to the PLD

activities, the inquiry process, the changes in teacher practice, and the student outcomes. Evaluation is described as ongoing and occurs within the three domains.

So far, models and frameworks with their limitations have been discussed, with Desimone's (2009) framework being cited more frequently in manuscripts than any other current models or frameworks. One of the reasons put forward is that Desimone's (2009) framework is more attractive to apply in contemporary contexts as it permits interactions between the four steps, more akin to a cyclical process (Merchie et al., 2018). More recently, in their extensive review of 35 studies over the last 30 years, Darling-Hammond et al. (2017) have identified seven common features of PLD design that demonstrate a positive link between PLD, teacher practice, and student outcomes, and therefore effectiveness. These features are described as:

1. Content focused.
2. Incorporation of active learning strategies.
3. Supporting teacher collaboration.
4. Using models and/or modelling of effective practice.
5. Providing coaching and expert support.
6. Offering time for feedback and reflection.
7. Integrated overtime (sustained duration).

The authors recommend taking into account all the features when engaging in PLD design, to ensure a strong basis for effective professional development. These features are often mentioned in other models or frameworks (e.g. Ingvarson et al., 2005; Merchie et al., 2018). Observe that features 1, 2, 3, and 7 are advocated by Desimone (2009) and they are all directed at the prediction of PLD having positive effects on teachers' improvement. Although the features listed by Darling-Hammond et al. (2017) enhance our understanding of the PLD process, they have not fully met the expectations of part of the researcher community (e.g. Evans, 2019; M.M Kennedy, 2019; Sims & Fletcher-Wood, 2021). Thus, it is important to mention that, to date, there is no clear consensus on PLD effectiveness features that can predict the causal effect of PLD and teacher improvement on student achievement (Sims & Fletcher-Wood, 2021). Kirsten et al. (2023) suggest that recent frameworks or models that include features such as features 5, 6, and 7 in the Darling-Hammond et al.' s (2017) list or to address "subject-specific instructional practices" (p. 2) should be considered for testing in future research to inform the field of PLD on the veracity of these features and therefore shedding light on best practices to affect student outcomes, encouragement that is mentioned in Hill and Papay's (2022) conclusion.

2.3.3 Recent frameworks

In the last ten years, aspects such as principles of theories of learning and characteristics of participants (e.g. their epistemological and ontological beliefs), the long-term sustainability of the learning, or the culture of learning, the educational organisation context (different from organisational support) as well as the students' characteristics, have become the focus of PLD effectiveness research (Fowler et al. 2022; M.M. Kennedy, 2016; Merchie et al., 2018).

In a study conducted by Gore et al. (2017), a pedagogy-based Quality Teaching framework and a collaborative professional development (PD) approach were used to investigate the relationship between classroom practice and student learning. This research was framed within a randomised controlled trial of Quality Teaching Rounds (QTR) across 24 schools with 192 teachers over 18 months. The study employed a variety of methods, including observations, surveys, discussions, and collaborative work at multiple time points, to assess the impact on teaching and learning.

The authors emphasise that Quality Teaching represents a conceptualisation of teaching practice, rather than a skill-based approach. The study found mostly positive effects of QTR, with the most significant impact arising from the accurate application of the intervention. The findings suggest that the intervention led to improvements in teaching quality, as measured by the application of knowledge in the classroom, students' understanding of the content, and the relevance of learning activities. Three key factors emerged as crucial to the success of the intervention: (1) the knowledge base of teachers, (2) the power dynamics among collaborating teachers, and (3) the teaching culture within schools, which was strengthened through new professional relationships and the development of inquiry habits among teachers.

In their attempt to propose a new framework, Sancar et al. (2021) draw attention to three main parts of the PD process – Teacher Education, Classroom Practices, External Variables – to establish, through an extensive literature analysis, a conceptual framework they labelled as a third-generation framework. Following Korthagen (2017) this new framework integrates teacher characteristics such as feelings, wishes, and inspirations as they affect or are affected by the PLD process, something that Guskey (2000) had already mentioned as core elements in the PLD process. The proposed framework is seen as an ongoing process from pre-service teacher education to retirement where the various elements have direct or indirect interactions, all aiming towards the application of the learnt knowledge in the classroom setting to influence teacher practice change and student outcomes. According to the authors, the framework

retains the influence of variables such as cognitive, emotional and/or motivational characteristics that will differ from educator to educator.

Although a range of models are used to provide information on what the effectiveness of PLDs looks like, concerns are raised on the ability to evaluate PLDs, and therefore testing effectiveness and the PLD outcomes in a systematic, ongoing effort by educational organisations and researchers (M.M. Kennedy, 2016; Merchie et al., 2018; Sims et al., 2023).

Another important concern is the difficulties in providing strong evidence in studies measuring students' learning outcomes in relation to PLDs (Kirsten et al., 2023; Sims & Fletcher-Wood, 2021). For Sims and Fletcher-Wood (2021) the issue goes even deeper. In their view, not only are the present frameworks not satisfactory, but they go further by questioning the so-called consensus and positing the following question: "Is the consensus warranted by the existing evidence?" (p. 48).

Sims et al. (2023) claim that little progress has been made in explaining what differentiates effective PLD from ineffective PLD. They critique the use of narrative reviews and thematic analyses for assessing effective practices, citing methodological weaknesses, and question the value of meta-regression in examining PD design and its impact on student outcomes, noting that it often amounts to guesswork rather than a solid, testable theory. While research on PLD has provided insights into the causal impact of various programs, it has yet to identify the factors that distinguish more effective from less effective PD (Sims et al., 2023, p. 3). The authors focus on identifying ineffective concepts in order to develop a new theory for designing effective PLDs. Based on data from various sources, they identify four key concepts essential for sustaining improvement in teaching: *Instilling Insight* (understanding teachers' prior knowledge, beliefs, and assumptions), *Building Motivation* (recognising motivation as a factor influencing change), *Developing Technique* (providing feedback on classroom practice), and *Embedding Change in Practice* (making new knowledge routine). They summarise the consequences of omitting any of these concepts in the design, with each case illustrated in Table 3.

Table 3

Summary of how PD can fail to bring about sustained improvements in teaching and learning

Instill insight (I)	Motivate change (M)	Develop techniques (T)	Embed practice (P)	Consequences
✓	✓			Knowing-doing gap
✓				Knowing-doing gap
✓	✓	✓		Revert to established habits
	✓	✓	✓	Misapplication
✓	✓	✓	✓	More likely to be effective

Note. From: Sims et al. (2023). Effective teacher professional development: new theory and a meta-analytic test. *Review of Education Research, 0*(0), p. 6. Licensed for used under Creative Commons CC BY.

Additionally, they argue that the mere presence of the four concepts in the PLD design does not necessarily lead to effectiveness. They assert that an active causal relationship between each element must be reflected by underlying components, or "mechanisms", to permit effectiveness and to impact learning and teaching. These mechanisms not only drive causal effects but also explain how those effects occur. To identify these underlying factors, the authors draw on cognitive and behavioural science, as the PLD literature offers limited insights into causal change in teachers. Table 4 summarises the underlying mechanism with each of the four elements (further discussed in Sims et al., 2023, p. 6-10).

Table 4

Combining the mechanism and IMTP

Purpose	Mechanism
Instill insight (I)	1. Manage cognitive load 2. Revisit prior learning
Motivate change (M)	3. Goal setting 4. Credible source 5. Praise/reinforce
Develop techniques (T)	6. Instruction 7. Practical social support 8. Modelling 9. Feedback 10. Rehearsal
Embed in practice (P)	11. Prompts/cues 12. Action planning 13. Self-monitoring 14. Context-specific repetition

Note. From: Sims et al. (2023). "Effective teacher professional development: new theory and a meta-analytic test. *Review of Education Research, 0*(0), p. 10. Licensed for used under Creative Commons CC BY.

In comparing their new theoretical framework with other existing theories, Sims et al. (2023) affirm that Desimone's (2009) framework could not be sustained principally on the grounds of methodological issues (M.M. Kennedy, 2016; Kraft et al., 2018; Sims & Fletcher-Wood, 2021), and therefore the five critical features are not included in their theory. As M.M. Kennedy (2016) calls for an "overarching theory of teaching or of teacher learning" (p. 946), it could thus be said that Sims et al. (2023) have succeeded in taking us closer to this point by providing an improved comprehensive theoretical framework as to how teaching practices are affected by PLD.

2.3.4 Barriers to effectiveness

Ideally, learning, whether explicit or implicit, should facilitate the acquisition of new skills, support the retention of knowledge, and enable its application in relevant contexts. However, the situation is frequently more complex. The models presented highlight several barriers to effectiveness, which can be categorised as either organisational or personal in nature. These barriers, as discussed, may impede the success of PLD models or frameworks implemented

within educational organisations. While student behaviours and capabilities also represent potential barriers, this aspect will not be addressed in the current section.

2.3.4.1 Organisational barriers

In the context of organisations, one of the most cited barriers in the literature is the lack of intentionality (e.g. Bennett et al., 2003; Darling-Hammond et al., 2017; Woods & Roberts, 2018). This barrier is equally applicable to individuals, although, without the organisation's intent to support learning, the learning and the changes in the professional practice of educators in the organisation are greatly diminished. Day and Grice (2019) note, in relation to middle leaders, the importance of intentionality from senior leaders to support their development, reducing conflicting agendas, and by extension, promoting intentionality in middle leaders who in turn support their team. In the case of the organisation's support, intentionality takes the form of a space created for the educators where they have time to process the learning and reflect on it, have adequate resources, can develop pedagogical and management skills efficiently, according to their needs, and, crucially, feel valued and integral to implementing the school vision. To ensure this intentional space becomes part of the regular practice, schools must make principally two changes. Firstly, make practical structural changes to provide time for inquiry and reflection in the timetable rather than outside that time, time for coaching sessions, and/or observations. Secondly, shift from an individualised model of inquiry to collaborative practice. Continuity and consistency over time are mentioned as conducive factors to influence change in the organisation, the teachers and, consequently, the students.

Thus, having continued support and commitment from the organisation, improve educators' capabilities and intentionality becomes shared (Admiraal et al., 2021; Cooper et al., 2023; Fowler et al. 2022; Lewis, 2017). To expand this notion of ongoing learning space, the learning process becomes the invisible part of a web of actions, formal and informal events, countless interactions, collaboration within and outside the educational organisation, and personal reflection that provides a platform where learning can emerge (Woods & Roberts, 2018). Without this learning space, physical or not, where an ongoing flow of interactions and collaboration can be exercised, learning and changes are unlikely to happen. Thus, developing a culture of learning and collaboration and providing a conducive learning environment, that is, investing in sustained PLD in any form, is a central ingredient to the learning of all educators in the organisation (Admiraal et al. 2021) which needs to be supported by well-developed processes and practices of learning to optimise and sustain teacher learning (Opfer & Pedder,

2011). Moreover, conflicting requirements from government policies and school vision add layers of tension. In the Aotearoa New Zealand context, the tensions come from the Ministry of Education PLD policy, external factors such as social and cultural factors, the national priorities or targets linked to achievement outcomes, and, up to recently, from PLD linked to teacher inquiry and appraisal (Darling-Hammond et al., 2020; Smardon & Charteris, 2017).

2.3.4.2 Personal barriers

In regard to learning, educators operate at three levels, they are influenced by the personal level (cognitive, attitudes, beliefs, and assumptions), the professional level (e.g. the organisation, stage of career), and the cultural level (Darling-Hammond et al., 2017; Day et al., 2008; King, 2014). In terms of creating barriers, the major impediment to the process of learning are, perhaps, attitudes, beliefs, and assumptions. Changing one's teaching practice, it is understood to be one of the most significant elements influencing educational outcomes for students (Hattie, 2009). This means that the principal challenge for teachers is not merely taking on board the new learning, but building upon and tweaking existing learning, as well as abandoning some old practices to espouse new ones (M.M. Kennedy, 2016).

However, any changes will involve a certain level of risk or risk-taking, an aspect of learning that is linked to change and improvement (Le Fevre, 2014). Risk-taking is not a simple matter of trying something new. It involves important elements identified as 1) loss, 2) the significance of the loss, and 3) uncertainty (Yates & Stone, 1992). Thus, educators may not only gauge the cost of this risk against possible benefits, but also against how the organisation facilitates the change. If the cost is perceived as too high, even though the proposed change is perceived as beneficial, educators will not engage in a change of practice (Le Fevre, 2014; Masuda et al., 2013). This observation aligns with Argyris' and Schön's (1978) espoused theories and theories-in-use about behaviour. Misalignment between information and beliefs may create barriers, where educators feel professionally vulnerable as they need to question their established assumptions and interrogate their own limitations.

Moreover, risk-taking can only take place in a context functioning on a high-trust model, where educators feel they are valued and will not be judged negatively for failure by their peers or organisation (Myran & Sutherland, 2019). In these conditions, the individual mindset and the support of the organisation will play a role in either embracing the change or resisting it. Risk-taking is determined by one's own belief system that acts as a filter to the way any new

information is received and perceived. They mediate the key learning in ways such as retention of the PLD learning and they guide future action (Fowler et al., 2022).

Guskey (2000) considers the personal motivation to engage in PLD as crucial for learning the lack of which creates a barrier to respond to learning stimuli. This is also pointed out by Howie and Bagnall (2015) and Evans (2002) who regard intentionality, commitment, and intellectual aspects as affecting the result of learning and promoting teacher agency. Kennedy et al. (2013) preconise the development of mindset, that is, "a predisposition to see the world in a particular way (…) a filter through which we look at the world" (p. 13) over skillset. By fostering change at the level of beliefs and assumptions, the authors believe it will influence an open attitude towards taking risk with intention, as well as increasing evaluation dimensions and accountability.

Additionally, Korthagen (2017) argues that by not taking into account the affective and motivation dimensions of teacher learning it could affect our understanding of educational change as "if behavioural change automatically follows from a change in cognition" (Hoekstra, 2007 as cited in Korthagen, 2017) in a particular social context. As a result, teacher learning consists of three connections: theory, practice, and the person, where learning is unconscious, multi-dimensional, and multi-levelled (Korthagen, 2017). Therefore, the outcomes of the learning processes will be different from one person to another and a differentiated approach for each individual should be considered (cf. Borko, 2004). Referring to change of values and attitudes, Muckenthaler et al. (2020) describe change as a lengthy and mentally challenging process that may lead to resistance in a non-supportive, intentional context.

As aforementioned, time is an important factor that influences the process and effectiveness of learning. There is a necessity for time to change, for time to use newly acquired knowledge, for time to ponder and reflect on effective change in practice, and for time to see the effects of the changed practice on students. As seen, the acquisition and retention of knowledge are influenced by various factors, one of which is the time involved in practising the new knowledge and the time elapsed between practices (Walsh et al., 2022). In language acquisition, if the lapse between learning new items is not continuously recycled or repeated, the loss is 20% percent after two days between practices (Conti, 2021). Liu and Phelps (2020) also note that knowledge decay is not only the decrease in retention, but also the adaptation and/or modification of the new knowledge through the filter of the learner which renders it inconsistent and possibly ineffective. Moreover, sustained change in teacher practice is described as difficult by Fullan (2007) as the context of practice is not often conducive, for example the lack of follow-up after PLD.

Finally, Avidov-Ungar's (2020) research points out that the different stages of career in relation to the motivation of learning show that beginner teachers tend to be more open to learning than expert teachers, especially if the learning does not serve their needs and the gains are perceived as minimal. Although the number of years of practice should be considered carefully, Cooper et al. (2023) note that highly accomplished teachers do not always correspond to their years of practice.

2.4 Evaluation, Accountability and Outcomes

To ensure that a PLD is effective, it must be evaluated. We have seen in Section 2.3 some different models and frameworks that claim to promote effectiveness and impact on learners if the PLD users include all the elements from PLD design to run the PLD. Thus, the 'evaluation' of PLD should be an integral part of the PLD process and not an afterthought or an obligation. However, whilst there is a high number of studies that evaluate the effectiveness of PLD for teachers, the evaluation of student outcomes often receives less attention, although it represents the gold standard of evaluation in education. Therefore, it is central to evaluation in education to demonstrate how improvements in teacher practice can lead to better outcomes in student learning (Borg, 2018; Guskey, 2002; M.M. Kennedy, 2016; King, 2014; Turner-Adams et al., 2019) However, as mentioned in McChesney and Aldridge (2019), the evaluation process has not changed significantly in the last 20 years and we are still a long way from producing consistent evaluation processes to inform the veracity of the current results in PLD research. This section focuses on the evaluation of impact(s) on teachers and/or students, not on the features of the PLD activities nor on the school or educational policies, environments that may or may not have an influence. In the following paragraphs, I use Scriven's work as the main source to consider the dichotomy between the theory of evaluation and evaluation as a methodology.

Michael Scriven grounds his work in the 'logic of valuing' where evaluation is considered not only in terms of describing, explaining, or predicting how the world is but essentially aiming to improve it (Scriven, 2010). The emergence of the concept of formative and summative evaluation stems from his early work. Theories "provide general and economical accounts of a domain, aimed at conceptual simplification and/or explanation of the phenomena, and involve a greater degree of speculation than does direct observations" (Scriven, 1998, p. 57). From an etymological perspective, the root of the word *evaluate* (e-valu-ate) is 'value', carrying the meaning of 'worth', the finding of the worth, the effect of something. The prefix *e-* comes from

Latin ‘es’ which signifies ‘out’ or ‘from’ something, and the suffix *-ate* is added to a noun to show the result of an action, a state, or a condition. Thus, we can say that ‘to evaluate’ implies an action resulting in giving a value to the effect of finding the worth of it. In Scriven’s words, evaluation is “adjudging the merit (quality), worth (value) and significance (importance)” (as cited in Clinton & Hattie, 2024) of an entity; it is viewed by Scriven principally as a cognitive process.

2.4.1 Evaluation

Over the years, the many attempts to define ‘evaluation theory’ have not always led to more clarity. As noted by Scriven (1998), theories offer more speculations than direct observation of a phenomenon. Evaluation Theory is a set of propositions that includes a list of components. Theoretical propositions are statements of relations between concepts, they may hold a truth or falsity. In turn, concepts are a representation of relations among variables that can be organised in different categories (e.g. class of objects, properties, events) (Geary et al., 2017). Similarly, Shadish et al. (1991) define theory as a “body of knowledge that organized, categories, describes predicts, explains, and otherwise aids in understanding and controlling a topic” (p. 30). The authors go further by proposing an expanded definition of evaluation theory as a theory serving to “specify feasible practices that evaluators can use to construct knowledge of the value of social programs that can be used to ameliorate the social problems to which programs are relevant (Shadish et al.1991, p.36). Additionally, Alkin (2004) reinforces the ideas of “set rules, prescriptions [and] prohibitions” (p. 4) in evaluation theories in order to guide the processes of an effective evaluation. Thus, Evaluation Theory is a framework that guides the assessment of programmes, policies, or interventions. It encompasses various approaches and principles to determine their effectiveness, efficiency, and relevance. The theory provides criteria for evaluating outcomes, informs decision-making, and supports improvements by analysing how and why certain results are achieved. It integrates qualitative and quantitative methods, focusing on stakeholder involvement and context to ensure a comprehensive evaluation process.

Scriven (1998) identifies different kinds of theories and proposes the following taxonomy of theories: (1) conceptualisation and account of a whole field, (2) simple descriptive hypothesis, (3) common kind of theory (subfields), (4) ortho-theories, (5) theories from philosophy of specific sciences, (6) methodological theories, and (7) the minimalist theory. As stated, the choice of a particular theory will depend on the context of application as theories have different

functions and scopes. In addition, Scriven (1998) separates theories into two forms to facilitate the choice of theory which he describes as:

(1) internal theories that are linked to outputs (e.g. improving teacher pedagogy).
(2) external theories that are linked to outcomes (e.g. student outcomes improvement).

Criticising Bloom, Scriven (1969) states that "evaluation cannot be value-free as set by the ideal in science and considers it absurd in principle" (p. 5) as evaluation is influenced by who we are (Shadish, 1998) and therefore influenced, in the process of evaluation, by at least the involvement of the evaluator. Thus, the link between theory and practice is less than optimal. Finally, when formulating or gauging an evaluation theory, Scriven (1998) concludes that "[a] *minimalist* evaluation theory (…) deals with the core concepts of evaluation: it is not and should not include a theory of evaluation-related explanations, recommendations, education, or application" (p. 70).

2.4.2 Evaluation and Methodology

There is some confusion in the literature between the term methodology and theory. Methodology may be considered as research designs or procedures which provide a framework and a systematic approach for the collection, analysis, and interpretation of data (Davidson, 2005) to assess the effectiveness of, for example, an education programme and its efficiency and impact. For the present study, I consider methodology as "(…) the study of ways of *doing* research in the field rather than the use of those ways *to study* the phenomena in the field" (Scriven, 1998, p. 58, italics added), where methodology is considered as a step between theory and practice. Practice is the variety of techniques and research methods used to collect data which is derived from the used theory. Practice stems from the methodology and depends on the context and its needs (i.e. methodological appropriateness).

A well-designed methodology ensures that evaluation is rigorous and should include the following four points (Clinton & Hattie, 2024; Green & McClintock, 1991; Scriven, 1969):

(1) Evaluation of the content analysis to understand well the rationale and goals of a programme.
(2) The analysis of sample survey(s) or secondary data to establish the programme needs and the use of available resources.

(3) Use field interviews to uncover elements that need to be changed, if the goals are in agreement with all parties; proposing a range of ways to measure goals (e.g. triangulation, mixed-method).
(4) Use quasi-experimental research to understand the impact of the programme, its feasibility, and if it is well-adapted to the problem.

As noted in Green and McIntock (1991), producing a high-standard methodology taking into account the above points is "a considerable intellectual and operation challenge" (p. 20).

2.4.3 Evaluation and Causation

The measurement of causation is not straightforward and is considered intricate. Simply stated, causation measurement in research is the determination of the relationships between variables and their influence(s) on one another. It is necessary to consider carefully which design to apply, which variables to analyse, which kind of methodology is necessary for the context at hand, which kind of statistical analysis is best to use, and which other influential factors may contaminate the results (e.g. the involvement of the evaluator). Scriven (2008) affirms that the gold standard for causation claims is 'critically appraised observation" (p. 19) as it produces the best evidence.

2.4.3.1 Formative and Summative Assessments

Scriven (1969) started distinguishing between the roles and goals of evaluation in response to Bloom and the narrow view of the science aim. Evaluation should, in Scriven's view, be accompanied by a meaningful description. He takes at equal value the formative and the summative evaluation which have different applications altogether powerful in their function. "Formative evaluation judges the worthwhileness of a program, process, or product *during* its development, and summative evaluation makes such judgements nearer to or at the end of the development process" (Clinton & Hattie, 2024, p. 14). Formative evaluation in the context of education helps the teacher to evaluate a pedagogical method with the intention of uncovering any inadequacies and/or positive outcomes so as to modify the 'final' product. Summative evaluation is about how effectively the aims are met rather than the quality of the product. Clinton and Hattie (2024) note the extensive misuse of the terms 'formative' and summative' in various fields, which concepts currently conflating with the ideas of assessment as in the context of education. The "assessments are not formative or summative it is [the quality of] the

evaluation interpretations that can serve as formative "(Clinton & Hattie, 2024, p.18) and may lead to improvement.

Coming back to the term evaluation, Patton (2009), when proposing 'utilisation-focused evaluation', emphasises the importance of tailoring evaluation processes. He argues that the effectiveness of the evaluation depends not only on its rigour but also on its relevance and practicality for the intended users. Considering the specificity of the context, the interactive process between the evaluator and users is maximised and provides meaningful insights. In turn, this may enhance the use of evaluation results to inform decisions, improve programmes, and promote accountability. In response to Scriven, Patton (2009) argues that evaluation is an ongoing process between the improvement of a programme and the future decision about this programme, focusing on evaluation as a tool for learning and improvement rather than an imposed compliance exercise.

However, evaluation may be perceived negatively, especially when connected to summative evaluation as a means used by ministries of education to make schools accountable and demonstrate that their organisation and teaching staff are efficiently serving the students' interests (Hattie, 2009). The pressure on all stakeholders is counterproductive, as the terms evaluation, accountability, and learning are becoming adversaries rather than a way of improvement (World Bank, 2018). Worldwide accountability tests such as PISA are considered ineffective representations of measurement of learning as they do not compute the skills acquired by students as they develop their learning (World Bank, 2018). Unfortunately, governments are often using these tests to launch national evaluations, implement new policies, or implement improvement programmes in schools (Clinton & Hattie 2024). Whilst the need for summative standardised national assessments is recognised as a way of indicating tendencies, the metrics should not be substitutes for contextual evaluation analysis to determine the need for improvement of learning, in a particular educational organisation, and to use these metrics as a complementary and secondary source of data, a measure *for* learning guide (school or government led) vs a measure *of* learning (action in the context of the classroom) (World Development Report, 2018). The same types and criteria of evaluation can be applied in the context of Professional Learning and Development.

In the context of PLD, to evaluate is to articulate the outcomes of PLD in terms of resulting impacts on learners in comparison to the intentions of PLD at the outset of the process (McChesney & Aldridge, 2019). The answer to the question 'What should be evaluated?' must be answered before the beginning of PLD by describing the desired outcomes that will be identified at the end of the PLD by means of a measurement process (Borg, 2018; Guskey, 2000). A long

list of studies acknowledges the difficulties in objectively evaluating PLD due to the complexity of the nature of the human elements (i.e. teachers and students) as well as the inter-connectivity of features that are part of various PLD designs, frameworks, or models that may lead to more negative impacts than desired (Darling-Hamond, 2017; Didion et al. 2020; Gore et al., 2017; Nordengren, 2020; Olofson & Garnet, 2018; Sims & Fletcher, 2021). Quoting Ling (2012), M.M. Kennedy (2016) highlights the recurring issue of the evaluation process as being "consistently becoming one of expensive failure" that "[seems] to start with optimism and end with modest or immeasurable outcomes" (p. 115). This state of affairs is also reported in McChesney and Aldridge (2019) as their review concludes by stating: "there appears to be a significant disconnect between the existing theoretical recommendations and the 'evaluation' approaches commonly used in school" (p. 320).

In their meta-analytic review of the effect of PLD on student reading achievement, Didion et al. (2020) point out that out of the 28 studies selected, none of them give a plausible explanation for the difference in the effects of PLD on student outcomes. In Yoon et al. (2007), the review of evidence on positive effects on student learning is shown to be moderate at best. They reviewed the work of more than 1,300 studies using What Works Clearinghouse evidence standards. Their findings show that only nine studies had a moderate standardised mean difference effect on student outcomes. Additionally, Borg (2018) provides four examples which are large-scale initiatives. All four projects have various issues such as not using a baseline, the quality of the test administered, the time at which the evaluation is performed after PLD application in the classroom, or the robustness of the evaluation procedures, all of which affected the evidence of the impact of PLD on students. Other studies are restricted to analysing PLD effectiveness and/or its impact on narrow criteria, such as only STEM subjects, school year level or summative assessment, without having found significant evidence that supports the claim that PLD impacts the improvement of learning in students (Ansyari et al., 2020; Didion et al., 2020; Olofson & Garnett, 2018). Thus, the questions remain: what are we evaluating, when are we evaluating the 'what', and how are we evaluating it.

In his last chapter, Guskey (2000) outlines a step-by-step process from start to finish, identifying important points, such as the consideration of evaluation to be accounted for at the beginning of a project. Most importantly, goals should be clear, well defined, and linked to real needs. According to the author, PLDs that result in improvement, have two main qualities working in conjunction (Guskey, 2000, p. 251):

(1) planners have clear ideas about the intended effects on staff members and students.

(2) information is regularly gathered to help assess progress and determine how efforts might be improved.

As pointed out by Darling-Hammond (2017), few schools understand how to implement evaluation, the criteria that need to be taken into account, and have a system for tracking PLD or analysing the impact of PLD on teachers and/or students. Within our performative cultures, the impact/evaluation of PLD is measured mostly through assessing students and using teacher evaluation performance as required by the profession (O'Brien & Jones, 2014). This kind of data analysis only provides us with a glimpse of the improvements that students may have, for example, under the categories of engagement, well-being or behaviour (Timperley, 2011). Moreover, the range of categories included in studies of PLD evaluation is highly diverse and thus less comparable (McChesney & Aldridge, 2019).

2.4.3.2 Evaluation and issues

Methodology issues, principally the collection of data, are often cited as a barrier to transparent results. On the one hand, barriers may be due to the leaders in schools not having enough knowledge of the evaluative tools, which may be difficult to use as well as being expensive, and which are often neglected for this reason (e.g Goodall et al., 2005; OECD, 2016). On the other hand, the nature of the data, such as student assessments, teacher reflections, and self-learning may be controversial (Hill et al., 2013; McChesney & Aldridge, 2019). More recently, the literature has called for the use of mixed methods (i.e. quantitative and qualitative) to inform more deeply on the impact on learning and teaching (Olofson & Garnett, 2018) as well as adapting tools to the needs of schools rather than using a generic tool (McChesney & Aldridge, 2019; Nordengren, 2020).

Consideration of only the features of the PLD as evidence will inform partly on the effectiveness of PLD (McChesney & Aldridge, 2019). Although, there is a growing awareness of the various categories impacting the effectiveness of PLD, the complexity of the 'machinery' is overwhelming and it is perhaps impractical to implement it in the context of the educational organisation (Darling-Hammond, 2017). For instance, considering the categories outlined by Merchie et al. (2018), the scope of their impact on the complex daily practices of educational organisations often exceeds the managerial competencies of leaders (Guskey, 2002; Earley & Porritt, 2010) and is time-consuming (Nordengren, 2020). Therefore, as Guskey (2000) suggests, the focus should be on what is feasible, achievable, and purposeful in terms of the 'what', 'how', and 'when'. Moreover, the overabundant variation of formal and informal PLD formats makes it

difficult to compare and analyse the observed impacts. What is not clear from the literature is how the space between the end of the PLD and the testing of the student outcomes is to be considered. Nevertheless, what seems to be important is that evaluation is done over time and that it is part of regular practice to normalise the process and ensure robust results using the best available theoretical framework or model.

2.5 Positive Outcomes – a New Zealand example

This final section discusses the Te Kotahitanga initiative and Russel Bishop's book, *Leading to the North-East: Ensuring the fidelity of relationship-based learning*.

To address disparities in the context of education in New Zealand between Māori and non-Māori students, an iterative research and development programme, called Te Kotahitanga, started in 2001 following the ongoing concern that a large proportion of Māori students were statistically achieving well below the average despite reforms or change of policies (Bishop et al., 2009). Unfortunately, the disparity in educational outcomes among Māori students in the mainstream is still very present (Eley & Berryman, 2018; Ministry of Education, 2018). Te Kotahitanga literally means *unity of purpose* but has increasingly come to embody its figurative meaning of *unity through self-determination*.

Te Kotahitanga was a professional development programme to improve the educational outcomes for Māori students in New Zealand. Established in the early 2000s, the programme ran from 2003 to 2013 and focused on culturally responsive teaching practices and fostering positive relationships between teachers and Māori students. Additionally, the programme emphasised the importance of understanding and incorporating Māori culture and perspectives into the curriculum. It sought to empower teachers to create inclusive learning environments that acknowledge and celebrate Māori identity, ultimately aiming to raise achievement levels and reduce disparities in education. The initiative was influential in reshaping teaching practices and policies within New Zealand's education system. A core action of the initiative was to 'debug' the discursive teacher's negative positions on Māori achievement by starting to provide an in-depth understanding of the students' experiences using students and family voices and sharing these with teachers. Through PLD and regular coaching (Effective Teacher Profile), teachers were encouraged to critically reflect on their positioning and "the need to explicitly reject deficit theorising as a means of explaining Māori students' education achievement levels" (Bishop et al., 2012, p. 51), a transformational pathway. Moreover, the

agentic centre moved from the teacher toward the student (i.e. *ako*) as a new way to conceive and build relationships with these students, creating relationship-based learning within the classroom as a form of culturally responsive pedagogy. The idea of achievement depending greatly on the relationship between teachers and students is well-supported by research such as in Hattie's (2009) meta-analysis synthesis.

Although a longitudinal follow-up reports a clear improvement in Māori student outcomes due to this PLD initiative (Alton-Lee, 2008) comparable to New Zealand national results, Bishop (2023), in the introduction of Leading to the North-East, reports and analyses problems limiting the improvement outcomes for Māori students related to the design of this initiative. The critique focuses on revising four major problems: "the deficit explanations, the dominance of the monocultural transmission approach, the lack of using effective teaching interactions, and the confusion over the need for ongoing resourcing of the support systems" (p. 5) as well as the problems impact on the goals of the Te Kotahitanga initiative. Principally, teachers were not receiving enough guidance to enable them to learn how to respond to and effectively use the relationship-based pedagogy, and to receive ongoing support to ensure that the implementation of the programme was done with a degree of exactness (i.e. fidelity) as the funding to schools was stopped before the initiative was embedded in the teaching culture and before the in-school system was in place. Thus, schools which were able to continue the funding of a support system, were able to follow with fidelity the programme without dilution and modification, which resulted in continuous gain for Māori students. Teachers working in such schools are called by Bishop (2019) 'North-East' teachers who highly espouse the two dimensions: caring and learning relationships (whanaungatanga) and interactions (effective pedagogies). Thus, ensuring the fidelity of the programme is central to the success of Māori students. This is a crucial point for the present study as the key research is to understand how the learning of PLD is implemented in schools, what is done to support teachers after PLD, and how schools know the PLD learning has benefitted the teachers. According to Bishop (2023), the following criteria must be taken into account for long-term success (sustainability):

- Expert knowledge skills being transferred to the school's leaders;
- Ensuring implementation is done with fidelity;
- Transforming leadership practices to support teachers' learning and development;
- Developing a system to ensure the gathering of evidence to inform the next step at the class and school level;
- Developing a community partnership to add value to student learning.

The revolution needed at the school level to ensure the ongoing success of Māori students in New Zealand is massive. The transformation of a school into a "North-East" learning institution depends not only on improving teachers through PLD, it also depends on the whole philosophy of that school. From setting SMART Goals, implementing a relationship-based pedagogy, and solid infrastructure for a common code of pedagogic practice to leadership knowledge and skills to provide long-term support to the initiative, by using evidence for decision-making and providing a space for collective ownership of the transformation. Only then will positive outcomes for Māori and non-Māori students be sustainable in the long run.

2.6 Summary

This chapter has reviewed a range of literature with regard to the importance of Professional Learning and Development of teachers to achieve professional growth and educational improvements. It has discussed the literature around the importance of a deep understanding of how adults learn, explored a definition of Professional Learning and Development. It offered a typology of various conceptual frameworks and models proposed in the last 25 years in the education field, their (in)effectiveness to define evaluation, accountability, and outcomes providing successful example of PLD that have generated improvement and positive outcomes in student learning. Chapter 3 discusses Methodology and Methods.

3 Methodology and Methods

3.1 Introduction

This chapter outlines the methodology and methods employed in this research. The chapter begins by discussing the research philosophies, the position taken within this study, the research design, and the methods utilised. It follows by explaining the roles of the questionnaire and semi-structured interview, as well as the methodology used to integrate both quantitative and qualitative data. Consideration of the ethical principles are included in the chapter, highlighting how participants were protected throughout the study.

3.1.1 Real World Research

To generate knowledge, a sound methodology is essential. Methodology, as defined by Bell et al. (2022), refers to "[t]he theory, justification, and assumptions behind the selection and use of research methods" (p. 5). Additionally, it is important to consider the political dimensions and implications of particular research methods and practices (Robson, 2015). This is understood in the present study as applying equally to qualitative, quantitative, or mixed methods research.

3.1.1.1 Philosophical assumptions in Social Science Research

To provide a strong justification of the methodology used in this research context, it is important to understand the foundational role of philosophy. This informs on the process and the concepts of the approach. Coates (2021) emphasises the importance of "clearly communicating philosophical assumptions when reporting research" (p. 171). In social science, philosophical views are often categorised into two camps: ontology and epistemology. Although considered distinct, research often regards ontology and epistemology as closely entwined (Blaikie & Priest, 2019; Bell, 2022; Grix, 2002).

Ontology relates to the nature "of social phenomena do or can exist, the conditions of their existence" (Blaikie & Priest, 2019, p.120) and it involves defining "what we believe constitutes social reality" (Blaikie, 2000, p.8). In contrast, epistemology focuses on "what kinds of knowledge are possible (...) and with criteria for deciding when knowledge is both adequate and

legitimate" (Blaikie & Priest, 2019, p.120), exploring "how what is assumed to exist can be known" (Blaikie, 2000, p. 8).

Researchers, particularly novices, often struggle to grasp these complex philosophical concepts, principally due to unclear terminology and a lack of training, leading to confusion (Blackie & Priest; Bryman, 2006; Coates, 2021; Hammond & Wellington, 2021). To further complicate matters, the 'wars of paradigms' have added layers of complexity to the understanding of research processes. Kuhn's (1970) concept of paradigms defined by Denzin (2010) as "more than nested assumptions about ontology, epistemology, methodology and ethics (....). Paradigms are human constructions; they define the shifting worldview of the research-as-bricoleur" (Denzin 2010, p. 420-21). Since the 1970s, positivism, post-positivism, constructivism, interpretive, and critical theory schools have shaped the landscape of social science methods (Bryman, 2008; Coates, 2021; Denzin, 2010). More recently, Mixed Methods Research and pragmatism have gained traction as they reduce the debates between philosophical assumptions, allowing a more flexible approach, and integrating various philosophical and methodical strategies tailored to specific research issues (Hammond & Wellington, 2021; Robson, 2015).

The purpose of a pragmatic inquiry is not so much to uncover the truth but to present what Dewey (1930) once called "warranted assertions" (Hammond & Wellington, 2021, p. 154) and the 'warranted assertions' (i.e. truth, meaning, and knowledge) are subject to change over time. In the context of methodology, researchers in the educational field now face the challenges posed by the rapid evolution of educational practice and technology, which complicates clear data analysis that was once guaranteed by traditional statistical tools (Goller et al., 2022). Below, Table 5 offers an attempt to clarify the pragmatism approach presented and, in the following paragraph, how the paradigms are integrated in the data collection.

Table 5

Paradigm and Pragmatism

Paradigm	Pragmatism
Starting point	Observed pattern that needs a causal explanation.
Purpose	To establish the existence of underlying explanatory structures and mechanisms.
Assumptions	Ontology: depth realist.
Logics of inquiry	Deductive: to produce a possible underlying causal explanation.
Role of hypotheses	Explanatory mechanisms are hypothesised as potential causal explanations.
Main forms of data	Numerical and textual.
Methods of data collection	Quantitative and Qualitative. Collected and generated.
Purpose of data analysis	To evaluate evidence for the existence of the hypothesised causal structures and mechanisms.
Main types of data analysis	Evaluate evidence for the presence or absence of causal structures and mechanisms.

Note. This table is an summary of a list of paradigms and their corresponding pragmatic explanation based on the book *Designing social research: The logic of anticipation* (3rd ed., pp. 38-40), by N. Blaikie and J. Priest, 2019, John Wiley & Sons.

My research utilises two main paradigms. On the one hand, it is a positivist approach as it employs quantitative methods that result in the measurement of characteristics and variables through the use of an online survey. On the other hand, a pragmatism perspective serves as an alternative to positivism. Pragmatism posits a set of assumptions about knowledge and inquiry, linked to mixed methods that offer "accommodation between quantitative and qualitative methods and between positivism and interpretivism" (Hammond & Wellington, 2021, p. 155). However, what distinguishes pragmatism is its emphasis on practical experience at the centre of the real world as opposed to theory. This approach tends to sidestep theoretical controversies. Hence, fallibilism becomes acceptable as knowledge emerges from testing how something works (Robson, 2015), allowing the inquiry to oscillate between induction and deduction processes.

3.2 Mixed Methods research design

Mixed methods research is defined as the integration of both quantitative and qualitative approaches. It "intentionally combines the perspectives, approaches, data forms, and analyses associated with quantitative and qualitative research to develop nuanced and comprehensive understandings" (Plano Clark, 2019, p. 107). The quantitative and qualitative components may be used sequentially or concurrently, with the results being merged at the analysis and interpretation stages.

The primary challenge for researchers using mixed methods design is the planning required for meaningful integration or triangulation. This involves understanding how the components from the quantitative and the qualitative approaches are interrelated and how the data can be used subsequently in the analysis to draw accurate conclusions (Hammond & Wellington, 2021; Plano Clark, 2019). To explore the impacts of PLD on teachers, this study employs the principles of 'convergent mixed methods design' based on the premise that combining quantitative and qualitative components will yield a deeper understanding than relying on a single model.

3.2.1 Identifying potential schools

For this research, 19 schools located in the Tāmaki Makaurau | Auckland and Kirikiriroa | Hamilton regions were selected based on their Educational Review Office (ERO) reports. These reports highlighted Professional Learning and Development (PLD) as a key factor influencing student outcomes, contributing to the school's learning culture, and facilitating the implementation of well-developed PLD strategies. Additionally, for some schools, the reports included recommendations for fostering continuous, purposeful PLD that aligns with students needs and enhances staff capabilities. One specific report emphasised PLD as a high priority for senior leadership, focusing on specific educational outcomes and incorporating student voices in the development of pedagogical practices. For approximately one-third of the schools, PLD was directly linked to internal evaluations (i.e. Professional Growth Cycle) and how their use promotes effective teaching and positive changes. Two of the reports did not make reference to PLD, leading to those schools being automatically disregarded.

Throughout the research process, it was essential to carefully recognise and adhere to ethical guidelines to maintain the trust of the participants by ensuring anonymity. Based on this selection, eight Tumuaki | Principals were contacted to invite their schools to participate in the present research project. The introduction letter (Appendix D), participation information sheet

(Appendix E), and consent form (Appendix F) were sent prior to the distribution of the survey. The material stated that the identity of the participants and their schools would be protected using a no-ID collection software. For the interviews, participants were given similar assurance regarding protection. A coding system was used for the recorded source and a genderless pseudonym to represent the participants and their schools. Three schools responded positively to the request and granted permission for their staff to participate in both an online survey and an interview. The only exclusion criterion for the survey was that registered teachers must have a workload of at least 0.50 Full-Time Equivalent (FTTE). For the face-to-face semi-structured interviews, participants were included based on their involvement in designing PLD at their school or were overseen teachers (e.g. Head of Department, coaches).

3.3 Online survey

In accordance with the ethic committee's recommendation, Qualtrics survey software (Qualtrics [XM], 2023) was used as a tool to create and distribute the online survey to the schools. A link to the survey was sent to a designated staff member in each school, who then distributed it to the school staff. The software ensures complete anonymity as it does not permanently retain the data and offers better survey management (AUT Ethics Committee, 10.03. 2023).

The survey was designed by drawing from various sources. Firstly, insights were gathered from previous readings to complete an assessment on PLD as part of the coursework component in the Master of Educational Leadership. Additionally, questions were included from two surveys targeting teachers and learning (OECD, 2018) and, additionally, questions from a survey aimed at gathering data on staff perception of professional development needs (Hanover Research, 2019). Lastly, the literature review from Chapter 2 of this thesis and discussions with my supervisor, Dr Youngs, contributed to the survey questions. A full version of the survey sent to staff members of each school can be found in Appendix G.

The survey is divided into five sections:

- Section A contains general questions on the employment situation.
- Section B and C questions focus on school and personally identified PLD activities taken during the12 months prior to responding to the survey, designed to uncover opinions on PLD activities.
- Section D addresses the organisational processes that follow the PLD activities, principally what 'follow up' system is in place to ensure that PLD learning is applied to change teacher practices.

- Section E invites the participants to share their personal opinions on PLD in general and/or PLD activities at their school.

3.4 Data Collection

The survey was disseminated to schools after obtaining approval from the principals. In line with the ethics guidelines designed to preserve complete anonymity, it was sent to the staff by email through a designated staff member. To ensure participation, responses were monitored and multiple reminders were sent to the designated staff members encouraging them to promote completion of the survey to staff. One school faced challenges as both the principal and the designated staff member resigned during the survey period, causing delays due to the new staff's unfamiliarity with the research project. This situation made it more difficult to receive answers in a timely fashion. Despite these challenges, most responses were received between March and August 2024.

Following the survey, two semi-structured interviews were conducted with Deputy Principals in two different schools. The third school opted not to participate in this stage of the project. Results from both the survey and the semi-structured interviews will be presented in Chapter 4.

3.5 Semi-structured interviews

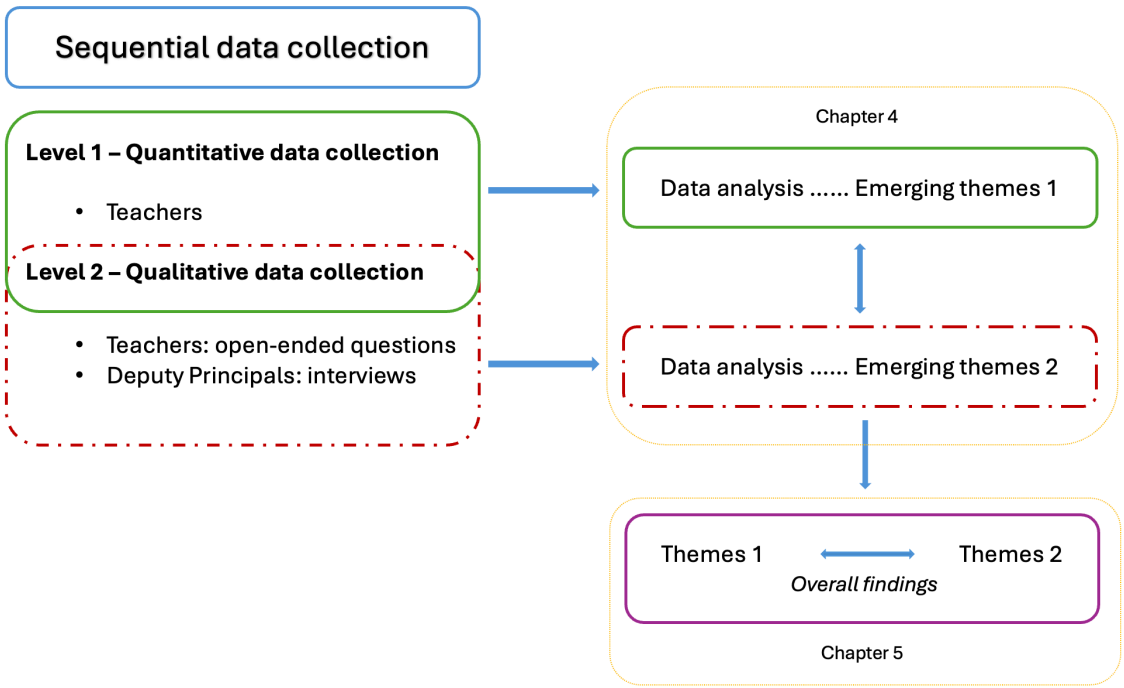
Recruitment for the semi-structured interviews was embedded into the survey, specifically within Section E, where participants were invited to express their interest by filling out a form with their contact information. Upon receiving expressions of interest via email from potential participants, I contacted them by email and phone to discuss the interview details. Participants who consented were sent an email containing key documents, including a participant information sheet (see Appendix H) and an interview consent form (see Appendix I). The interview questions were carefully crafted to elicit comprehensive insights regarding the organisational framework surrounding PLD (see Appendix J). These questions were designed to accommodate both middle leaders responsible for supporting staff and those involved in the design of PLD initiatives at their schools. The question structure allowed for flexibility, enabling participants to articulate their narratives while concurrently providing concrete information about their organisational practices.

3.6 Mixed Method integration

For the purpose of this study, a sequential data collection was employed to address the central research questions. First, quantitative data was obtained from the online survey, followed by qualitative data collected from the open-ended survey questions and the semi-structured interviews. The triangulation of the results specifically compared the two sets of data to gain deeper insights. In educational research, triangulation is critical for enhancing validity and reliability while addressing the complexity of educational organisation. By providing a comprehensive view of the educational experience, the triangulation methodology ensures the findings are both valid and robust (Ruane, 2016). Figure 4 offers a visual representation of the mixed method design for the data collection, showcasing a two-level design that illustrates the different strands of research methods, quantitative and qualitative data, and their interconnections. The conceptualisation of multilevel studies is customarily present in all three major research traditions – qualitative, quantitative, and mixed methods (Headley & Plano Clark, 2020).

Figure 4

Mixed Method Design - Data collection process



Level 1 of the design presents quantitative data gathered from the survey. As described in Section 3.4, each part of the survey was crafted to target various aspects of PLD, allowing for the grouping of several themes. The survey generated numerical data from participants at the three selected schools, which facilitated univariate analysis. The data from each question were summarised in graphs produced with Qualtrics [XM] and organised in a result table within an Excel spreadsheet.

Level 2 of the design provides information on the qualitative data from both the survey and the interviews. The survey included open-ended questions, and the responses were analysed to identify common patterns and themes. This qualitative analysis enriched the understanding of the themes reflected in the numerical data. Each interview was systematically coded to consolidate responses into overarching themes.

The results of both data sets are discussed in Chapter 4. The quantitative data reveal emerging themes that are partially supported by the qualitative data, which in turn highlights another set of emerging themes. These emerging themes, identified from the survey and the interviews, were grouped under major themes which primarily include:

- Effectiveness of the PLD process/system at school (consistency)
- Evaluation of PLD (relevance of PLD, overloaded learning cognition)
- Follow-up (collaboration, coaching, feedback, expert support)
- Measurement (change of practice, evaluation of outcomes)
- Impact on practice (direct learning)
- Needs (individualisation of PLD, time to learn)
- Accountability

Chapter 5 discusses these themes in detail, providing an overall interpretation linked to the research questions. The chapter concludes with recommendations based on the findings and relevant literature.

4 Findings

This chapter outlines the findings of both the survey and the semi-structured interviews. For the survey, findings are first presented quantitatively and then qualitatively. To effectively present the findings, the survey data is displayed through tables, and graphs, and themes are categorised based on the data type. The semi-structured interviews with the Deputy Principals detail their perspectives on Professional Learning and Development, along with their suggestions for improving the existing system. A close analysis of the interviews unveiled emerging themes, which are illustrated with selected excerpts to substantiate the findings. The survey and interviews questions are included in the appendices G and J.

4.1 General results

A total of 58 responses were received, representing a response rate of 26% of possible answers. However, the number of responses from Section B of the survey dropped to 49. Of the six semi-structured interviews anticipated, only two were secured. Due to the low number of responses, I decided to combine the answers of the three schools when presenting results to ensure a better representation of the tendencies. Percentages are used throughout the presentation of results, although the number of participants is used where appropriate. The breakdown of responses by school participation is presented in Table 6.

Table 6

School participation summary

KURA/SCHOOL	# TEACHING STAFF	SURVEY	INTERVIEW
KIWI YEAR 9 TO 13	120	8	1
TUĪ YEAR 7 TO 10	23	16	1
PŪKEKO YEAR 7 TO 10	80	34	0
TOTAL	223	58	2

In Section A of the survey, Table 7 provides general information on the participants' employment. The results are presented in a single table rather than separating each question. A diverse group of professional educators is represented, with the majority having a long experience in teaching. Therefore, it may be assumed their experiences with PLD activities possibly encompass a broader interpretation in terms of engagement in PLD.

Table 7

Participant employment information

Question	Answer	Percentage / # participants
Employment status	Full time	95 %
	Part time	5 %
Year level taught	Year 7	53 %
	Year 8	50 %
	Year 9	71 %
	Year 10	55 %
	Year 11	16 %
	Year 12	16 %
	Year 13	16 %
Number of years of teaching	Less than 2 years	5 %
	2 to 5 years	5 %
	6 to 10 years	14 %
	11 to 15 years	22 %
	More than 15 years	53 %
Subject area	Languages	5
* Teachers may teach more than one subject.	Arts	4
	Sciences	9
	Social Sciences	9
	PE	5
	Mathematics	10
	English	11
	Technology	5
	ESOL	2
	Homeroom teacher	9
	Pastoral	1
	Worship	1
	International students	1
Responsibilities other than classroom teacher	Yes	64 %
	No	36 %

4.2 Quantitative results from survey

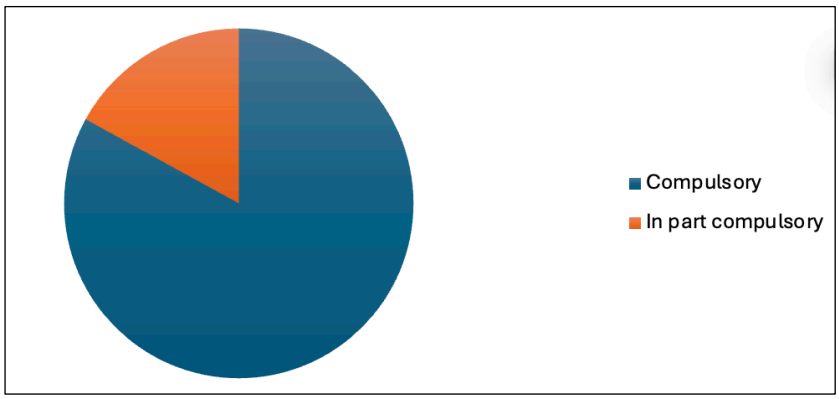
Section B and C of the survey collect information about participants' perceptions of PLDs and the PLD processes at their school.

4.2.1 Section B – Participants' perceptions

To the question "Is attendance to PLD activies organised by your school compulsory?" most participants answered 'yes' (83%) with 17% of the participants given the choice to participate in these activities.

Figure 5

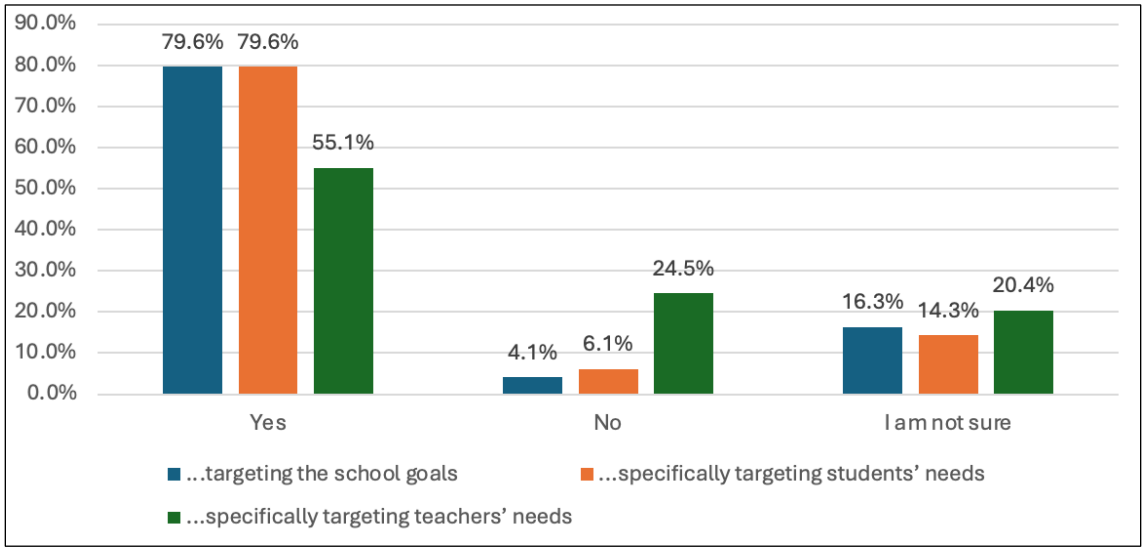
Question B.2



In relation to the PLD-targeted areas of learning, participants indicated that school-specific goals and students' needs are the most important areas of learning covered by PLDs. Conversely, providing support for teachers' specific needs is regarded as less important in planning PLDs for the year. Although Figure 6 shows a noticeable number of participants who could not identify these areas of learning in the offered PLD activities, most participants were able to make the connection.

Figure 6

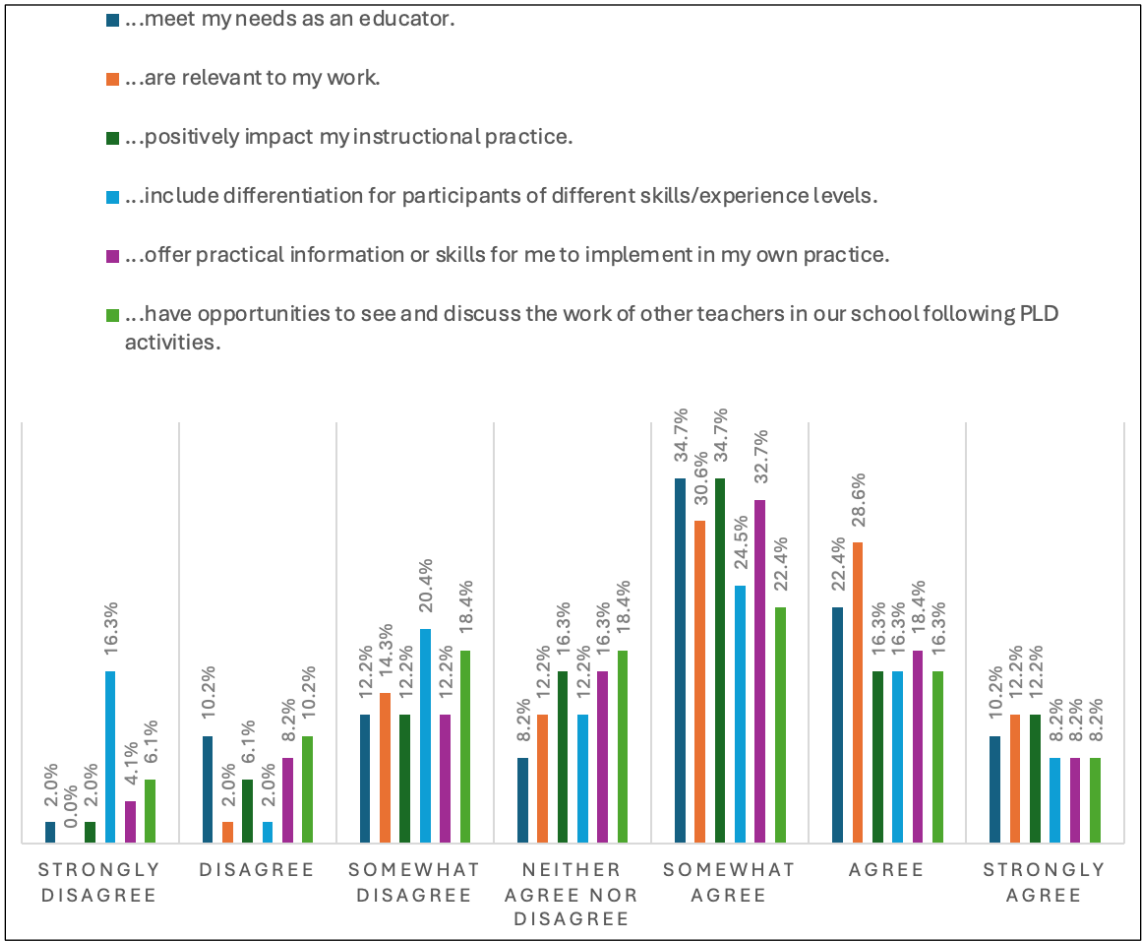
Question B.3



When asked about their views on the PLDs at their school, the highest number of respondents said that they "somewhat agree". Considering the information in relation to length of employment, which for most of the participants is between 6 years and more than 15 years, this trend may be justified as participants will have already a large kete of experience and PLDs will not be always relevant to them.

Figure 7

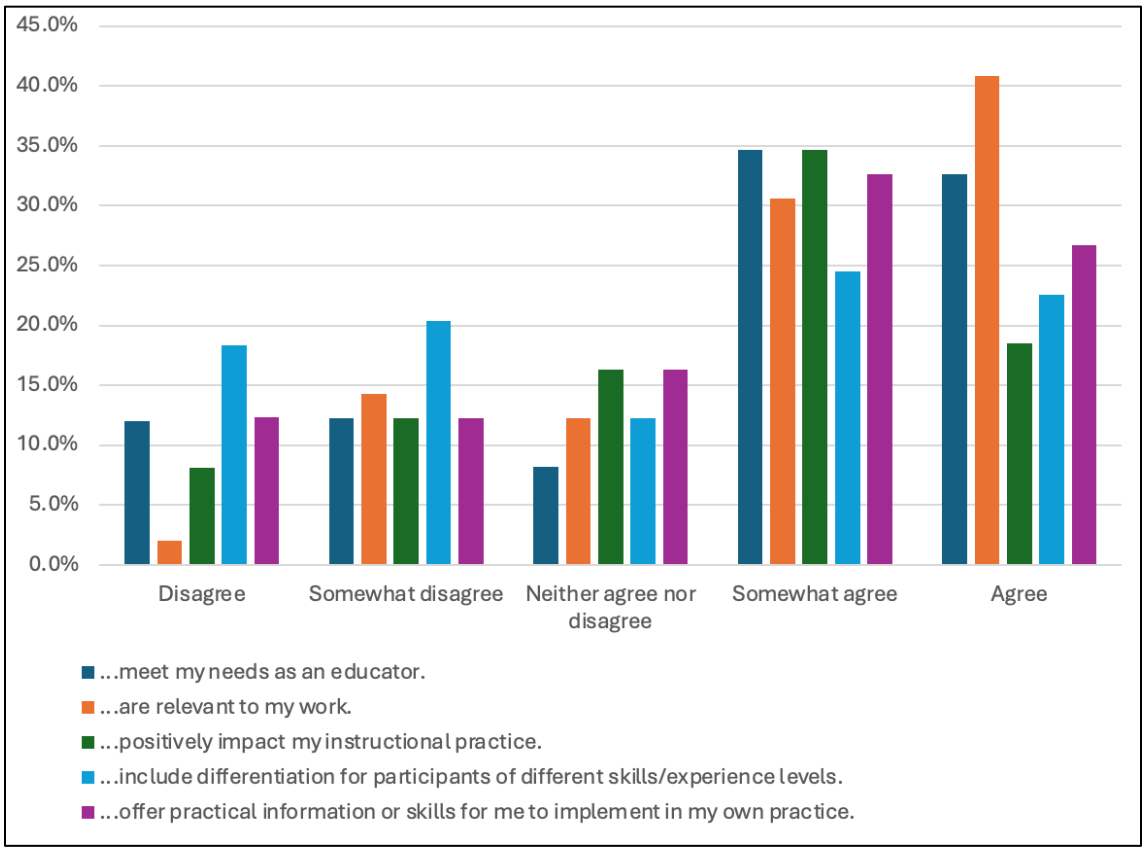
Question B.4



By collapsing the means of 'strongly disagree' with 'disagree' and 'agree' with 'strongly agree', the results can be interpreted as PLDs being a positive element in the professional journey of the participants (Figure 8).

Figure 8

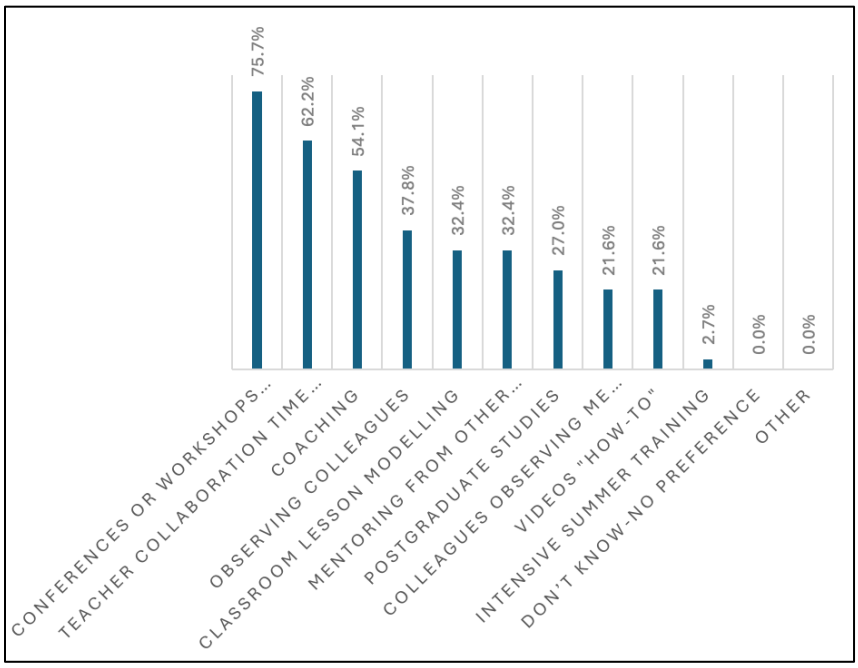
Question B.4 Collapsed ranking



When thinking of a preferred PLD mode of delivery, conferences come at the top of the list. However, several modes are employed at the schools which indicates strongly that internally delivered PLD (i.e. at school) is the preferred mode and can take different shapes.

Figure 9

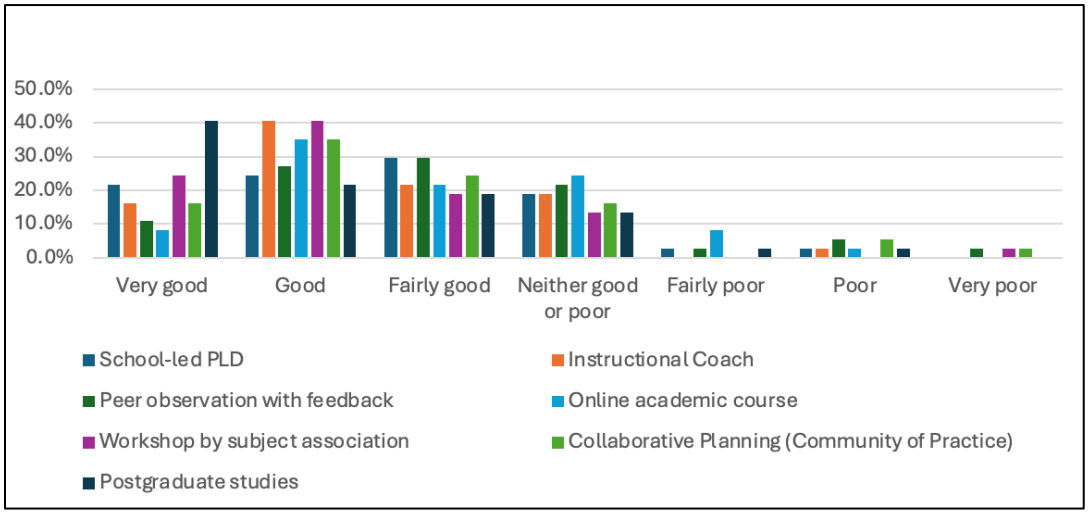
Question C.6



Linked to their preferred model of PLD delivery, the participants were asked to make judgement as to what they perceived to be a quality PLD learning model. The results show that all the proposed models received a substantially positive judgement.

Figure 10

Question C.7



By aggregating the results for 'very good', 'good' and fairly good', the top three models are 'workshop by subject association' (83.7%), instructional coach (78.3%) and school-led PLD (75.6%). Note that postgraduate studies are also well-regarded.

4.2.2 Section C - PLD information process

In Question C.1, the responses reveal that all participants in the three schools had PLDs in-house with 25 participants reporting having PLD outside school and most of them once or twice during the year, while 20 participants indicated they had no PLD outside the school. One of the participants wrote:

> we have had to focus on internal expertise and resourcing for the last 2 years as our school was in financial deficit

an additional reason for this result.

When asked if they wanted to participate in more professional development in the last 12 months, 47 % of the participants answered 'yes' and 53 % of the participants responded 'no'. This suggests that a significant percentage of participants perceive that some of their needs are not met by the provided PLD. This situation may influence the results for this question and could be linked to the previous Figure 7 (Question B.4) where a notable number of participants responded that the offered PLDs do not cover their professional needs.

Figure 11

Professional development participation

The duration of the PLD activities ranges from weekly meetings of one hour to sessions that last half a day, a full day, two or three days, one week, one term, one semester, or to one year. Some

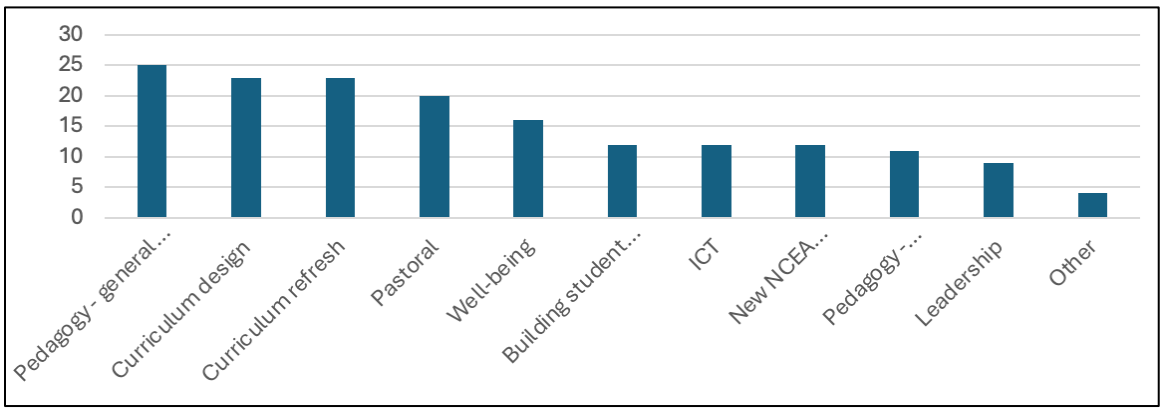
participants noted that PLD meetings are held for one or two hours after school weekly (Question C.2).

In all three schools, participants are required to complete a form to request approval for external PLD from the Head of Faculty and/or then the Line Manager. Other requirements include (1) identifying how the PLD will contribute to achieving the school or the faculty goals and (2) explaining how it could enhance teaching practices. School funding for external PLD is mentioned as a turn-down for external PLD due to lack of funding, with one teacher mentioning the need to pay for the PLD out of their pocket and taking an unpaid leave. Written feedback following external PLDs was mentioned by one participant. Since internal PLDs are integrated into the school structure, there is no formal request process, although there is a mention from one of the schools of a short discussion with a coach focused on the internal PLD learning of the previous week. Aside from financial concerns in one of the schools, other reasons hindering attendance at external PLD include insufficient time due to school commitments (such as camps), capacity and time clash, the impact of time away from teaching, and the lack of interest as retirement approaches.

PLDs offered at the schools and externally cover a range of categories. The three most prominent categories are Pedagogy (not subject specific), Curriculum Design and Curriculum Refresh, and Pastoral Care.

Figure 12

Question C.5



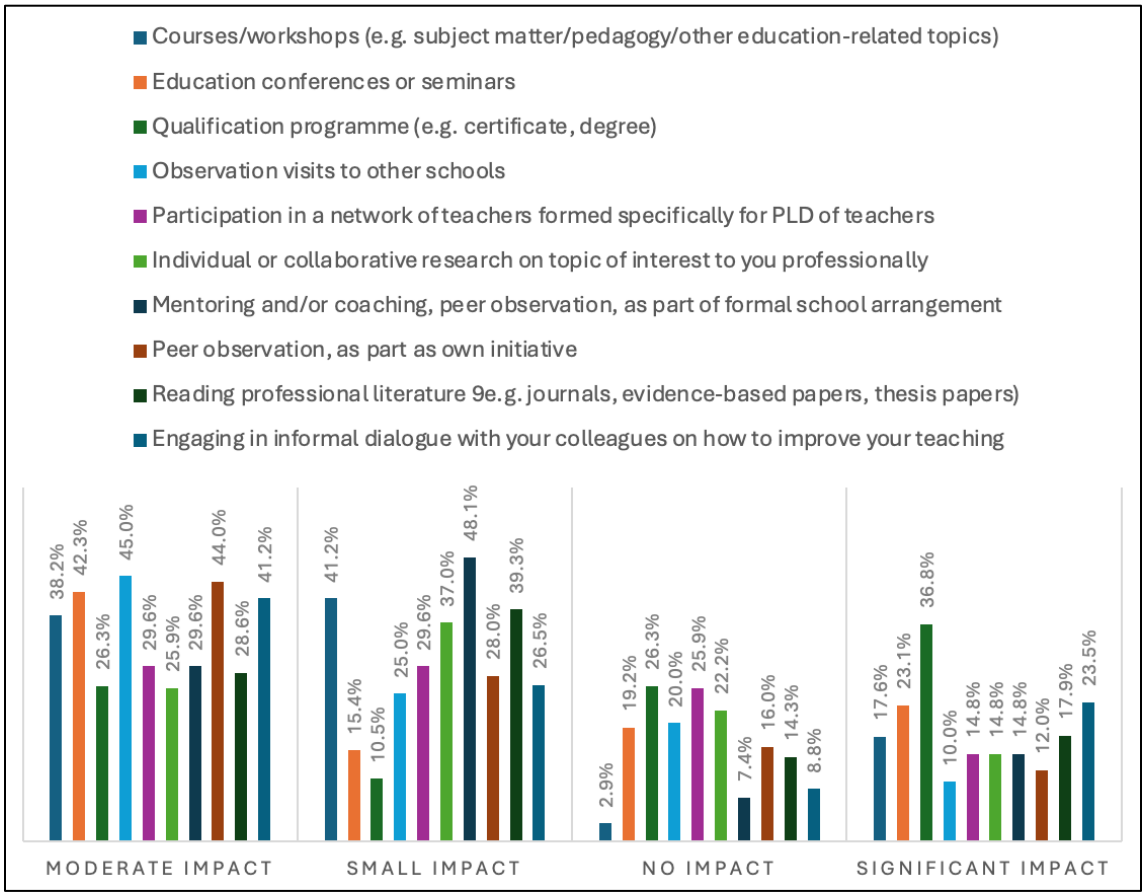
4.2.3 Impact of PLD on professional growth

In assessing the impact of various forms of PLDs on the participants' professional growth, most responses fall within the moderate range with some exceptions. Among the different categories, qualification programmes are perceived as having the greatest impact. This result may be linked to the perception of postgraduate programmes representing a high quality PLD learning model (see Figure 10 – Question C.7). Additionally, education conferences and seminars, which are preferred modes of delivery (see Figure 9 – Question C.6) are considered to have a moderate to significant impact on professional growth.

On the other hand, the mentoring and coaching model of PLD is rated lower, with the highest responses reflecting a small impact. This finding is somewhat surprising, as participants responded 'mostly good' when assessing the quality of this PLD learning model (c.f. Question C.7).

Figure 13

Question C.8

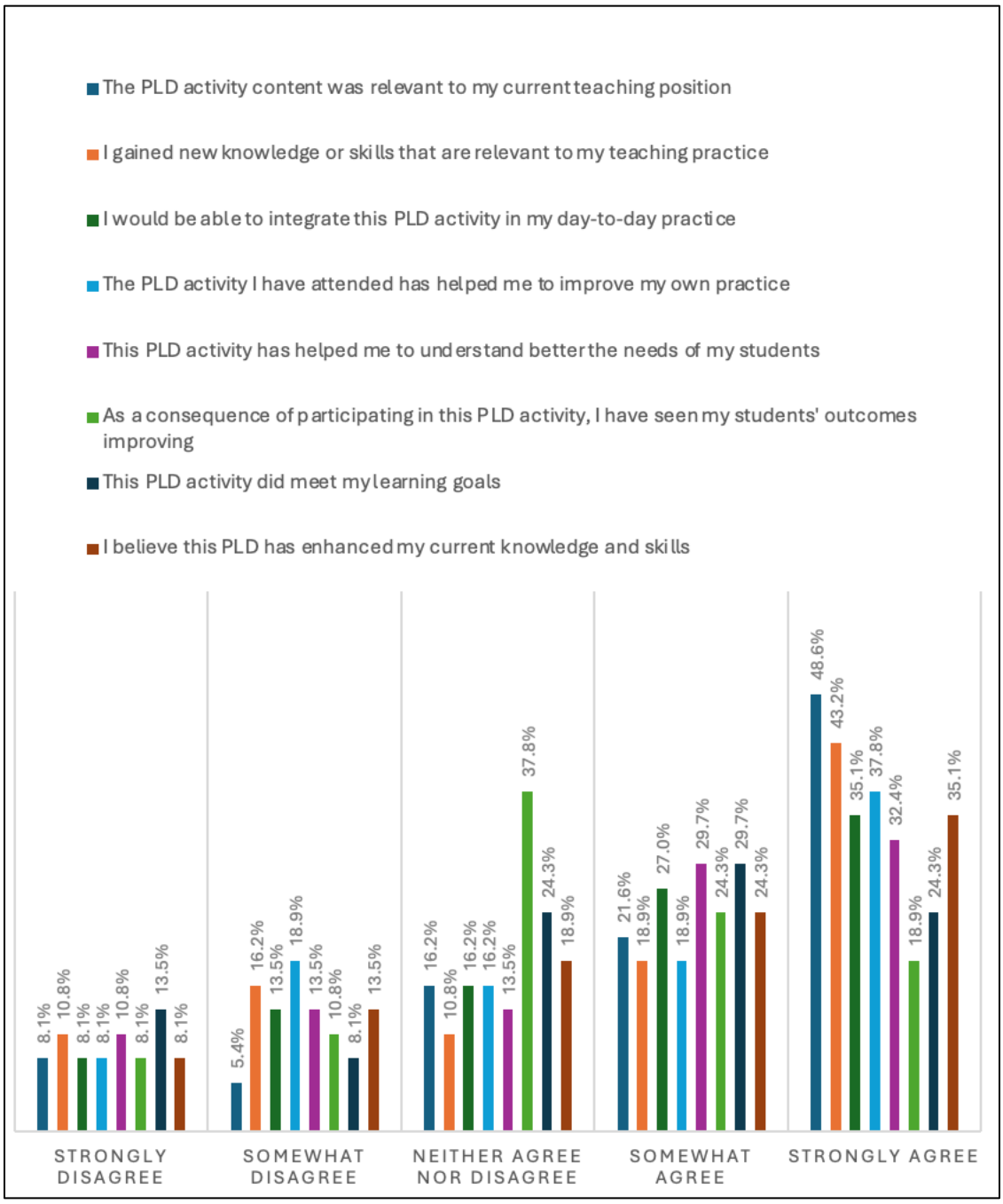


4.2.4 Evaluation of one chosen PLD activity

In Question C.9 participants were asked to select one PLD activity, which would then serve as the basis for collecting data about its impact on their learning and practice. Half of the participants chose an external PLD activity, while the other half opted for an internal PLD activity. Based on their choice, they were then asked to rate a series of statements (see Graph 8) and the results show that most PLD activities were judged as providing learning benefits. Interestingly for this research, a fair number of the participants were able to establish a link between PLD and an improvement in students' outcomes; however, nearly 38% of them were uncertain about that relationship.

Figure 14

Question C.9.1

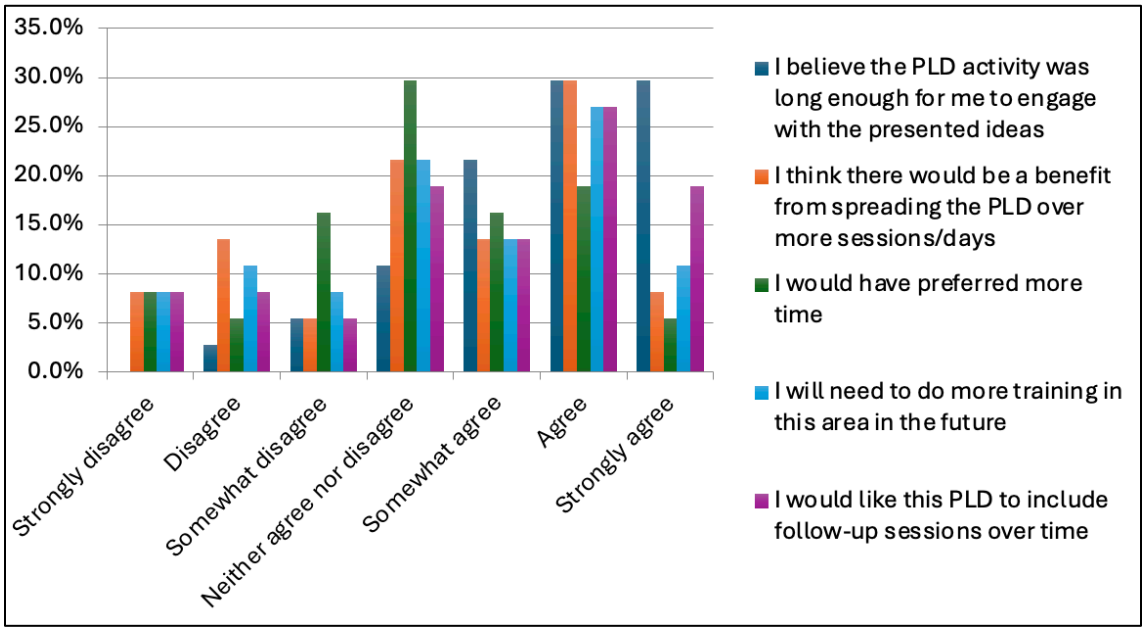


Referring to the time spent participating in their chosen PLD, two-thirds of participants think the length of the PLD was appropriate for engaging with the content. The responses indicate that about half of participants require more time or more training for their chosen PLD. What the

responses do not demonstrate is whether being satisfied with the PLD excludes the necessity for further time or training. Addressing this would require an additional question.

Figure 15

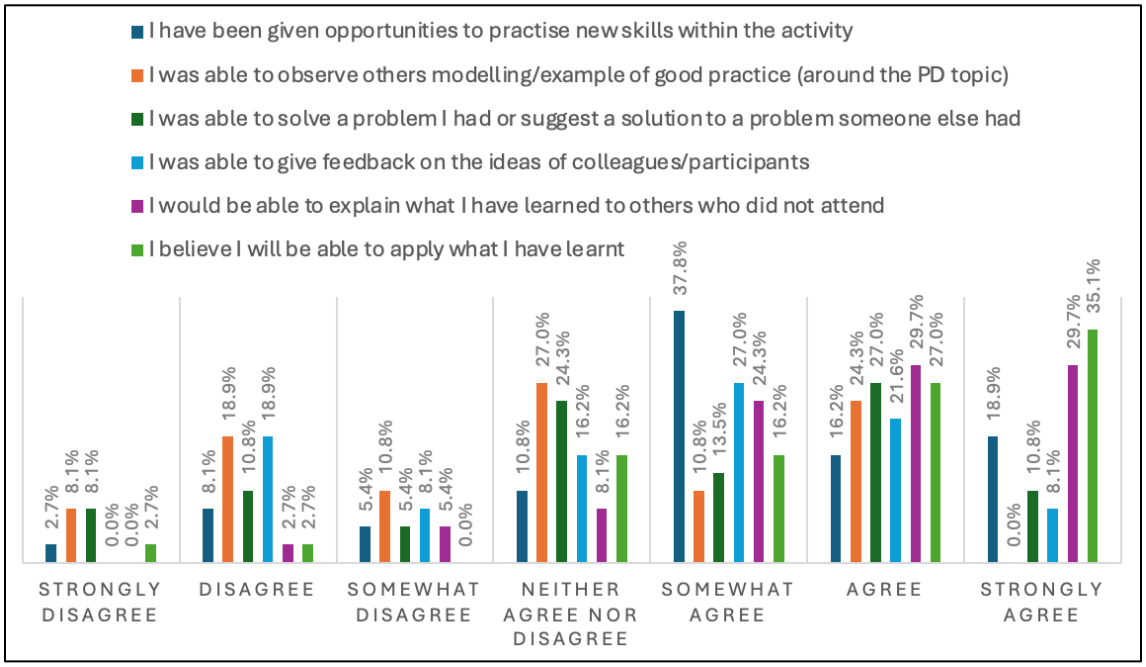
Question C.10



Question C.11 led participants to consider the application of the new learning in various situations. Participants were quite confident they could apply their learning and disseminate this learning to others. There is some evidence of the chosen PLD being 'active learning' in the responses to 'practising new skills within the activity' and' being able to observe good practice'.

Figure 16

Question C.11



4.2.5 Section D –Reporting after PLD

Answers to questions D.1 and D.2 provide information snout the established system following participation in a PLD session, as well as the type of follow-up that occurs afterwards. Just over a third of the participants acknowledged having a reporting system, while nearly a third reported that no follow-up was provided. The option 'I am unsure' indicates that a fairly high number of participants are not aware of the procedures at their school. These responses are further expanded in the written comments in questions D.1.1 and D.2. The described follow-up takes various forms, including (1) filling a 3,2,1 Google form (which highlights three key ideas, two things I will tell others, one thing I will implement); (2) delivering a presentation to the entire staff using a specific PowerPoint format; and (3) sharing the learning with their coaching group and department to disseminate the content to all attendees.

Participants using the Google form mention that no additional follow-up occurs after the process is completed, and that

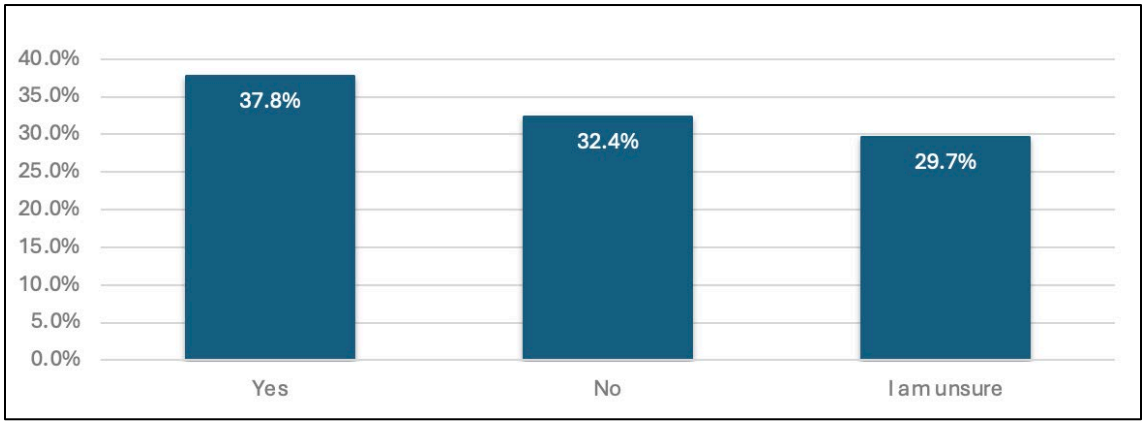
> Ideas and nuggets of learning simply sit there and robust discussions are left on the shelf.

Sharing during a whole staff meeting encourages and promotes discussions; however, it seems that little is done with the shared learning afterwards.

In the school which uses a learning coach approach, participants receive support from their coach through observations, discussions and reflections. This group also mentioned the role of the Middle Leader who may offer additional follow-up. One participant added that 'further workshops and drop-in sessions with the person running the PLD' were organised, while others mentioned the possibility of requesting further support from experienced staff members and collaborating with colleagues who have attended the same PLD. Additionally, one participant pointed out that the size of the school might hinder the ability to provide follow-up and support for everyone individually.

Figure 17

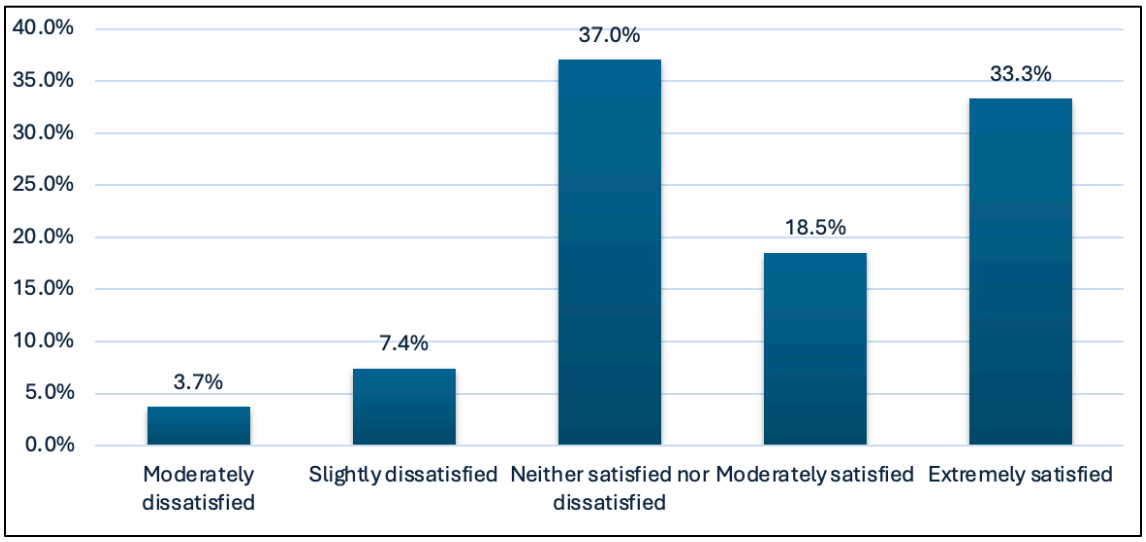
Question D.1



When evaluating satisfaction with follow-up received at their school, over one-third of the participants responded by 'neither satisfied nor dissatisfied'. This suggests that while their school has made adequate efforts in this area, there is still room for improvement. Additionally, another third responded 'extremely satisfied' which may be interpreted as participants feeling they are receiving value for their effort. Note that only participants who had received some form of follow-up answered this question, resulting in a smaller pool of responses.

Figure 18

Question D.3



From the written answers (Question D.3.1), participants provided justifications for their 'highly satisfied' rating, which highlight several important elements, including:

- Excellent coach
- Supportive environment
- High trust model
- Helpful, approachable, and knowledgeable staff member
- Quality of learning and discussions
- Evidence-based practices
- Relevance and consistency
- Opportunities for reflection

On the other hand, dissatisfaction was described in these terms:

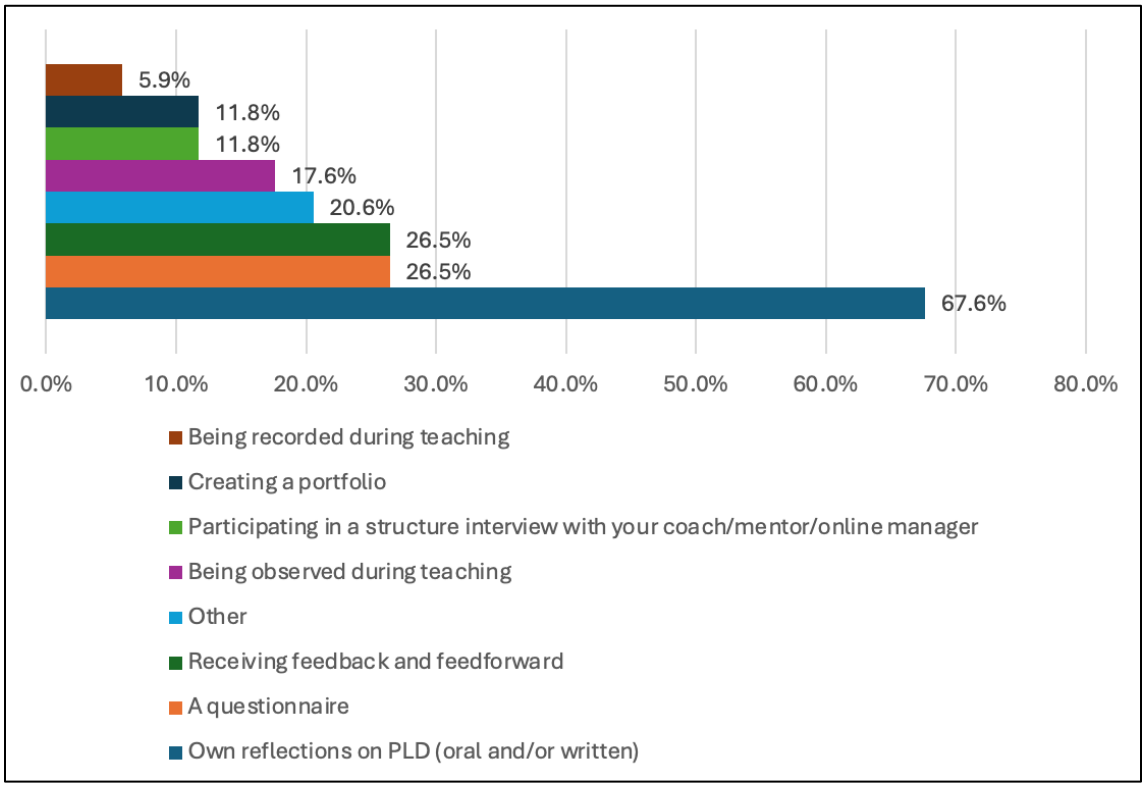
- Leadership not implementing the next steps in time to be useful
- Inconsistency of meetings with the coach due to lack of time because they are often scheduled during the lunch break
- Usefulness of the Google form is unclear

Question D.4 is concerned with the acquisition of new knowledge and skills during PLD and how these change participants' practices. Interestingly, and perhaps unsurprisingly in the context of New Zealand schools and the use of the Growth Inquiry Circle approach, the highest

result is linked to the participant's own reflection, followed by receiving feedback as well as feedforward, and questionnaire. Participants could select more than one option.

Figure 19

Question D.4



With respect to reporting learners' outcome successes, most participants' answers (n = 28) mentioned the use of summative assessments. A word cloud was generated with the keywords in the answers.

Image 1

Question D.5

The final question in Section D seeks to determine whether the school measures the impact of professional learning and development (PLD) on student outcomes. A summary of the responses is presented in the table below. Two responses were excluded as they did not directly address the question.

Table 8

Question D.6

Category	**# of answers**
No or I am not sure	17
Use of assessments	4
Own observation	2
Faculty review, feedback, reflection	2
Student survey	2
Yes	1

None of the responses made explicit reference to how measurement correlates PLD with students' outcomes. However, the results for Question C.9 indicate that about one-third of the participants make/perceive a link between PLD and improvement in students' outcomes. Only one participant provided details on the process of monitoring shifts in student achievement. These shifts were being monitored by leaders and the participants considered the system effective. Another participant mentioned the complexity of measurement, citing the many factors involved such as heterogeneity in the PLD programme, time relevance, teachers' engagement and motivation, and students' range of abilities.

4.3 Qualitative results from the survey

In Section E, participants shared their views on the external PLD activities outside or at their school. They were asked how these PLD activities impacted their teaching practices and how these contributed to improving student outcomes, specifically, how they changed their teaching practices after a PLD activity and how they understood its effect on students' outcomes. Although not all participants provided answers to this question, the analysis of the data offers valuable insights into what takes place and what participants would like to see implemented in their schools. Participants' responses were analysed and divided firstly into two main groups – Quality of PLDs and participants' needs and Positive impact of PLDs – and secondly, these categories were further organised into emergent themes.

4.3.1 Quality of PLDs and participants' needs

The 'Quality' theme encompasses answers about how PLD quality is viewed by the participants and what aspects should not be part of a PLD. The 'Needs' theme covers aspects of PLDs that were not present in the PLD activities taken by the participants, but were wished for. These are summarised in the following table.

Table 9

Quality and needs themes

Theme	Category
Quality	What is considered as an effective PLD. What aspects of PLD should not be present.
Needs	Individualised PLD Time Understanding learning journey

4.3.1.1 Quality theme

Participants described the quality of PLD activities, in other words, their effectiveness, primarily and mostly in relation to their school structure and the teaching standards. Note that some comments may fall into more than one category.

> I believe PLD is necessary in schools to upkeep teaching standards and update theories in pedagogy and strategies. PLD will help teaching practice in class as well as outside school because teachers will pass on their knowledge to students and parents.

> PLD needs to be tied either to school's strategic goals and then measured in some way. Or it should be connected to the teaching standards. This makes the PL purposeful.

> PLD activities are linked to learning inquiries. They should follow each other to support and grow. If this link is unclear then the PD will not be of use.

> (...) I was a mentor/coach supporting teachers in developing pedagogy as well as delivering information/techniques/ processes about literacy strategies, learning habits, visible thinking and other pedagogies. It was a rigorous program that required hours of prep and work and set high demands on participants. As appraisal has fallen away, the demands of PLG has also reduced and by comparison now it feels very watered down.

When considering aspects that should be excluded from PLD activities, thus considered to be less effective, participants' views encompassed a lack of local context, the PLD provider's own

agenda, the amount of content to consider during one PLD, and a lack of deep learning and clarity about the PLD:

> For me, there are two types of PLD. Those offered externally through providers, and what can be internally in a school. I feel that is a lot of expertise internally in school that would be fantastic for everyone, but this is often not prioritised, and is not how the MoE supports PLD. Often you have to follow a process with what meets their agenda, and use external approved PLD providers who are often incentivised for you to work with them, regardless of what is needed for your local context.

> Outside PLD (i.e. externally provided) is often overloaded. There is too much content to cover and the pace is too fast.

> I attended PD and the facilitators attempted at making a space where we could start to plan the new course for our subject area, but there was so much vagueness and 'grey areas' that we couldn't even figure out where to start. By the end of the afternoon we left thinking we made no progress and that we would just leave the planning till the end of the year.

Related to the quality of PLD, the notion of time is an important factor considered by the participants. When sufficient time is not allocated to learn in-depth, the PLD quality declines.

4.3.1.2 Needs theme

4.3.1.2.1 *The notion of time*

The lack of time in an education organisation is often mentioned to be a barrier with regard to many areas of the professional life, and PLD is not an exception. Participants' views link lack of time for learning in-depth to ineffectiveness of the PLD. Some refer to PLD sessions as a waste of their time.

> While I see huge value in attending PLD, I find that implementation is sometimes a stretch as the busy-ness of school life continues the moment you leave school and unless you spend time planning on how to implement or change your course and teaching based on the PLD, the changes occur sporadically and are almost improvised. (…) [A] single day session or an afternoon or even conference don't offer allow for decompression time where you can plan and strategise how to implement new tools etc. so they are often just brought in on the fly and maybe not used to their full capability.

> I would prefer to have a time allowance for my own chosen reading or research for my professional development, as often I give up planning and marking time for PLD that doesn't really teach me anything very new

> Teachers are adults but to be effective and efficient in the acquisition of new learnings and understanding that could positively impact our practice, time for percolation and consolidation is needed.

> We had too much PLD - some very interesting but never enough time to implement and solidify new practices.

> We have PLD every week for 1 hour after school - sometimes it's a waste and other times it's ok and helpful.

> In my view there is too much whole school PLD which means a lot of teachers and (sic) sitting through PLD that is not relevant or useful to them.

> I am interested in postgraduate study but haven't pursued that area yet.. finding space in my year is tricky.

Some of the participants' comments in this section illustrate the necessity for PLD to provide individualised and targeted, differentiated learning.

4.3.1.2.2 The notion of differentiated, individualised PLDs

Doing whole staff PLD sessions is not particularly seen as conducive to teachers receiving the same message. Participants point out the need for individualised, tailored PLDs. Having a choice on what to learn is seen as avoiding repetition for teachers who have been in the profession for a long time. An effective PLD should, in the view of the participants, take a differentiated approach when the Senior Leader Team plans PLDs for their school. Respondents recognised that some forms of PLDs are for whole staff sessions, but not the majority. Here is how they express this matter.

> I am a Dean at * (name withdrawn). The last PD that any of the Deans went to was approximately 4 years ago. The school needs to make sure that they send their Deans to PD outside of school. They should also offer to pay for University papers that will help them with complex pastoral issues or leadership.

> However, we need to prioritise PLD days for subject-specific collaboration so that we get opportunities to hear people's concerns of teaching the subject in the hopes to provide further support.

> [External] workshops are always beneficial but school PLD is never relevant to the subjects I teach - which are secondary - they are more focused on Year 7 and 8 homeroom teachers.

> I would like to be given opportunities for PD as an individual, so I can tailor the PD to what is relevant for me. After teaching for a long time, much of the school wide PD is just the same old thing packaged in a different wrapper..... it's reasonably meaningless.

> I feel it needs to be more targeted and there needs to be more feedback from teaching staff around what we would find useful in PLD.

> It would be useful to have some choice in PLD so that staff could pick the one that was best suited to their needs.

In addition to recognising their individualised learning needs, teachers aspire to have their own learning journeys acknowledge. This understanding, in addition to what has been addressed earlier, is essential for effectively attending to teacher professional growth and support their needs.

4.3.1.2.3 The notion of understanding the teacher's learning journey

Some perspectives expressed in the feedback highlight the participants' inner needs, which may be less tangible. Participants often struggle to connect the school PLD activities with their subject areas when these activities are focused, for example, on general pedagogy rather than specifically related to their teaching speciality. They would like to be encouraged to engage with PLDs as they can see the benefits but don't always know where to start, especially after not having had external PLDs for a while. One participant relates to becoming more discerning over the years when it comes to PLD saying:

> I have also learned that not everything you learn in PLD is appropriate for your class at the time. It took me a number of years to learn how to be selective with what I learnt and to think about my students and my personality and how it would fit in the classroom environment.

Finally, one participant comments on the lack of PLDs at her previous school and how it has impacted her professional development. Her absence of learning opportunities has provided her with an insight into the necessity of PLDs for her own growth. This comment shows the importance of maintaining PLD in any educational organisation for teachers' ongoing professional growth.

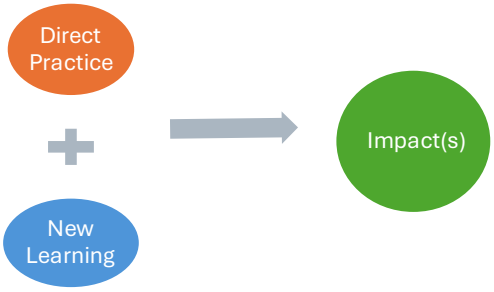
4.3.2 Positive impact of PLDs

Aspects of PLDs recognised as having a positive impact come under two main themes, Direct Practice and New Learning, which in turn are considered as impacting teachers and students.

Direct Practice is understood as PLD activities that permit participants to experience learning during PLD or as part of the follow-up, in other words, a hands-on practice.

Figure 20

Positive Impacts



When writing about ‘Direct Practice’ and 'Learning’, participants use the words 'collaboration', 'local context', 'real-life examples', 'discussions', 'observation', 'feedback loops' and 'follow-up'. Below are some of the survey entries.

> I think it is essential for you to attend some external PLD, but I often think the "biggest bang for buck" is when you are working collaboratively with colleagues in your own context.

> Full day on each PLD with follow ups and feedback linked to real life example offer a great way to engage in valued strategies for teaching to valued outcomes. Within areas of learning discussion of implementation is robust and observed.

> We have different forms of PLD [in our school]. The Conference I attended was amazing and overall was the best PLD for last year. We also had four staff meeting relating to Te Reo Māori. These were very practical and you went away with a fairly simple task to implement into your teaching practice. Our Curriculum Refresh Days were school wide and were also well organised and worthwhile. We also had PLD with an [external] provider working in a particular curriculum area with 3 - 4 visits per term. This involved observing lessons and being observed.

> Leadership coaching that is current and centred around culturally sensitive practice and conflict resolution was terrific for my stage in my career. As a significant school leader but not the principal I sit in a lonely space at times , it is empowering when parents and the community hold different views to the school’s robust pastoral care / restorative practise approach within the limitations of a school day; so to have industry leaders and ‘pracademics’ facilitate and coach me through HR outside and inside the leaning spaces has been brilliant.

> Deep thinking and unrushed feedback loops with opportunities to discuss free from judgement has been so refreshing and encouraging- wish I had this PD a decade ago!

From the participants' comments, PLD impacts are seen as follows:

> This work then enables further thought and deep learning reflection after teaching and looking at student success.

> I love them! I am a career teacher, and I am always looking for opportunities to grow and challenge myself as a teacher! I really enjoy when you see the impact on students.

> PLD will help teaching practise in class as well as outside school because teachers will pass on their knowledge to students and parents.

> Students really notice when new strategies are being implemented.

By comparing the above comments about the positive aspects of PLDs from Section E and the responses to Question B.5 (Please provide up to a maximum of five words that would describe your school's culture in relation to PLD), it is possible to infer a strong alignment between the two. The words were grouped under Positive and Negative categories and then clustered using their semantic similarities in Table 10.

Table 10

School culture and PLD

Category	Words
Positive	▪ Professional, Integrated with complex goals, Intentional. ▪ Consistent, Clear direction, Purposeful, Healthy, Deliberate, Attentive, Inclusive, Specific, Targeted, Planned, Proactive, Relevant. ▪ Aspirational, Enthusiastic, Engaging, Positive, Empowering, Reflective.
Negative	▪ Boring, Repetitive, Random, Rushed, Closed-stops, Time-wasting, Prescriptive. ▪ Blanket learning, Administrative, Tick the box, Money-driven by WST, Compulsory. ▪ Not a lot of variety, Not always relevant, Undifferentiated, Theoretical, Lecture-like, Primary school orientated.

A comparison of the answers from Question B.5 and Section E, reveals a strong similarity that validates the survey results.

4.4 Interviews

As previously mentioned, out of the six planned interviews, only two were secured. Both participants interviewed were Deputy Principals (DP) at their respective schools. A close analysis of the interviews revealed several emergent themes which have been grouped into four broad categories: (1) Implementation of PLD, (2) Process and Follow-up, (3) Barriers, and (4) Enablers. These categories are described in turn in the following sections. Interview questions can be found in Appendix J and participants were labelled DP-Kiwi and DP-Tuī for purpose of anonymity.

4.4.1 Implementation of PLD

Both DPs started the interview by outlining how their school designed and implemented Professional Learning and Development. Both mentioned the design includes a links between PLD topics/themes and strategic goals intended to support different school initiatives. DP-Kiwi added to this outline the department and individual goals.

DP-Tuī So our process is to have different spaces depending on our strategic goals. And in those spaces or those, categories, a range of professional learning opportunities arise (...). We don't shoulder tap teachers to go to professional learning. So I guess in a way, we're wanting our people to think it through to target ideas or activities that they know will benefit them and enhance their practice.

DP-Kiwi I think that's a combination of factors. The first one is always looking at the school's strategic goals, seeing what they are, and understanding what needs to happen from a cultural base and a school wide base. Secondly the department goals, which, of course, we reflected the really [sic] analysis on what needed to happen in the department to not only better the students results, but also doing that through bettering the teacher's pedagogical practice. And then the third component of that would be looking at the individual teacher after doing observations and understanding what it is that they needed to focus on. So a combination of those three factors. (...)

Thus, the school just strategic plan really sets a direction for the school. So that is the way in which you, if you like, if you think of your waka, that is the direction that your waka is wanting to go in. So then the people in the waka, being your staff, are the ones who are going to paddle. And we want everyone paddling in the same direction. It's not about getting in the waka. It's actually about, PLD, to me, is about moving in the same direction.

The two interviews highlight different views on how PLD is designed and implemented. From the comments, it is inferred that Kiwi School approach is principally offering PLD internally, while

the Tuī School aims to provide a choice of internal PLDs to teachers so that they can benefit more according to their needs. This difference shows that school beliefs can be diverse when speaking about PLD. Kiwi School believes that everyone needs to "paddle" in the same direction. This approach aims to ensure consistency in messages and fidelity in implementation to achieve effectiveness. In contrast, the Tuī School's beliefs are led by the notion that teachers are responsible for their learning and their needs, and to be proactive in their approach to learning and teaching. The role of the school is to provide a context that supports teachers in their professional growth.

4.4.2 Process and Follow-up

The PLD organisation process appears to be clearly defined in both schools. This is confirmed in the survey which indicates that teachers are aware of what needs to be done. Both schools offer follow-up sessions that emphasise reflection on the PLD design and dedicated time for discussions about professional growth in relation to PLD activities. In the Kiwi School model, the follow-up support is provided by a coach who helps the teacher to progress with their inquiry; follow-up input can also be provided by the Learning Area Leader (see Section 4.4.4) In the Tuī School model, although the role is not explicitly designated as 'coach', DPs and the Principal will give the feedback and feedforward on the submitted form as well as having one-to-one discussions. Being able to articulate the new learning for others is considered a critical aspect of the deep-learning process.

From the interviews, the application of the new learning is observed in both schools. The Tuī-DP refers to the presentation/reflection and how a change in practice is realised. The reflection and observations are mentioned by the Kiwi-DP as a way to understand the teacher's learning journey and the application of the PLD content in this journey.

DP-Tuī [For school-based PLD], we don't shoulder tap teachers to go to professional learning. In a way, we're wanting our people to think it through to target ideas or activities that they know will benefit them and enhance their practice. For subject professional learning, a teacher needs to request, they need to be the ones that are proactive.

Part of our process is that everybody who goes to PLD, professional learning or professional development subject wise, fills out a reflection form. The reflection form gets shared, little mini kōrero because if they can't articulate the richness or the value or criticise or a good critique around the PLD, then they haven't actually owned the content. So the process is a reflection form, a discussion with the professional growth cycle group and then a month well, it's generally a month later but sometimes it's 6 weeks later, a follow-up where they can say I've tried this, it's

working or I tried that and there hasn't been much benefit. So it's 2 opportunities to do an intense critical reflection and then afterwards another aspect of critical reflection to see if there's been some adaptive expertise or adaptive, implementing of that new learning in their current teaching or operational process.

DP-Kiwi Our PLD is delivered on a Friday morning, and that's a combination of old school, we have two or three maybe sessions like that per term at the absolute most. The majority of our PLD is done in the small groups (...). After the PLD is delivered, the following fortnight you have a meeting with your coach, and that's when you get to talk about your personal learning journey and your inquiry question that has come out of not only your observations, but your coach observations with you. It is working together and seeing about what you want to develop based on the PLD theme that is happening for the school.

Although both models are implemented thoroughly by both schools and the overall process is positively accepted, a number of barriers were pointed out. The issue of measurement is examined before presenting the barriers that are linked to process and follow-up.

4.4.3 Measurement

In terms of measurement, both DPs mention the use of quantitative data from formative and summative assessments. For the Kiwi School, the measurement of the impact of PLD on teachers and students is linked to the inquiry question (i.e. Professional Growth Cycle) set out by the teacher and the evidence collected during the year to show a shift in teaching practices. In addition to assessments, observation, feedback and feedforward as well as surveys and kōrero with students, are considered as evidence of improvement and/or change in students' outcomes. For the Tuī School, measurement seems to be a difficult notion to define tangibly. The individual reflections submitted are not rated, and there is no established system that demonstrates whether the process successfully impacts the teachers' practices. The Tuī-DP questioned the idea of measurement, asking how this can be measurable, how comparable it is, and how the process adds value to the school vision. As stated by the Tuī-DP, the impact on students is overviewed by the WST (Within School Teacher).

Both DPs acknowledge the difficulty in pinning down the impacts of PLD on teachers and students, citing the plethora of factors at play. The process, follow-up, and measurement are seen as evaluations to be conducted over an extended period to effectively understand the depth of the PLD impact on teachers and students.

DP-Tuī Is it [the process] highly successful? We're not sure yet. That's the reality. Do you think it's really measurable, you know, all your feedback, all the things that you're

doing? How measurable it is? How is it comparable? So subject's PD, I think is measurable because we ask that question, how has it impacted student learning? Similar to the inquiries that the WSTs [Within School Teachers] do.

In regard to the student learning. Can you show that there's been a shift? Is there an impact into student learning? Can you show that there's been a shift? Is it anecdotal? Is it sort of abstract? You know, the child's attitude or my feeling about my subject is changed. Can we measure it? That's to me it is debatable. (...) the staff enthusiasm, I guess, shifts with in hope and in delight in their students. Can we measure that? There's a famous statement that says “you can’t value what you can't measure”

That's a tough one.

DP-Kiwi I suppose you've got the individual learning journey. And when the teachers fill in [the form], they should be using some sort of evidence to suggest how they've shifted their practice and how that's resulted in outcomes for students. That's one measure for the individual. Another measure might be for senior students. You go to your quantitative data, traditionally we use the external results of standards from NCEA to see whether or not there's been a shift.

So there are various ways to measure and that would fall on the coach or the head of department, to be talking with that person, to ask what is your evidence and how does this look? What does it tell us? And then, what questions are you asking from the evidence to see whether or not there has been a shift for our students, and it's been better for them. So that's quantitative data, and then you've got, of course, other data. And the other data could be student feedback, which is like a student may not have moved in their grade, for example, however, their confidence may have soared because they finally feel that they have understood it really well. And then when they go on to the next piece of work, they're actually doing better. So when you look at it from that point of view, and you take a long term approach. Again, it depends on the measure you take.

If your data does not link to that first question before the inquiry starts, and if you can't explain that, then your data would not be the best set that you were using, be it qualitative or quantitative. But I don't know how many people are using that, that comes back to the coach or the head of faculty actually asking for that and saying, What have you got in place showing that?

It's quite tricky!

4.4.4 Barriers

Barriers to teachers’ learning may be part of the PLD system (design, implementation, and follow-up), or they may be part of the overall organisation structure. Six major barriers were identified with two being common to both schools: ‘school culture’ and ‘ability/capacity’. In this context, ability is understood as the ability to follow up, and engage with the assigned teacher giving feedback, during coaching or PGC group discussions, and capacity is understood as a personal state. The other barriers are ‘individual needs’, ‘well-being’, ‘cost’, and ‘results’. ‘Time’ is seen as a factor impeding the rich in-depth process of learning for DP-Tuī and to really "hear" people making connections with their practice.

DP-Tuī ***Time***

To hear their [teachers] heart of what was good, what was right, what's relevant. That to me is that's just one of the difficulties of our organisation. It's almost like you're out of time on a regular basis because it's always the next thing, the next thing, the next thing.

This is a real wish and a dream. 2 or 3 targeted days per term with 3 on 3 focused conversations around professional development only because to have quick feedback after a school day (...) My best learning is when I've had lots of uninterrupted processing time and then I get to share it with people. To withdraw away from a school day and to make time for the conversations, time to reflect on people's writing, time to give feedback, time to discuss the feedback, and then a space 2 or 3 weeks later. Going back to all of that. Are you still carrying those the new learning? Are you still picking up? Or is it all was it hype and excitement and long after the event nothing's changed?

Professional learning about all those elements of our profession. You can't rush that and it needs to be deeply understood.

Ability/Capacity

The reflection form gets shared [and] if they can't articulate the richness or the value or criticise or a good critique around the PLD, then they haven't actually owned the content. And I honestly believe at times teachers don't have that rich in-depth processing around new learning, significant theory, significant mind shifts around content.

[Teachers] appear weary [at the end of the day]. And especially this [space] where they teach at least 5 subjects. They just don't have that headspace capacity. And I talk about the concept of switch cost effect, where you're mentally switching in and out of PE and then English and then literacy.

School culture

And then there's ownership, then there's fellowship, then there's the huddle. That to me is crucial in education because otherwise we become robots and there's just systems.

Well-Being

So the PLD, depending on what the driver or the initiative is, we as a team always make sure that participants are thoroughly aware that workshop PLD is much more beneficial than lecture style knowledge, sort of containment or knowledge reception. We're very mindful of how not just how busy teachers are but how cognitively [overloaded thinking] So, we've done a little bit of reading around the switch cost effect and teachers who are at PLD, reading emails, busy with student content, who might not, have time to absorb, process, think through and deeply engage with the content, in a meaningful way.

Cost

So to withdraw teachers from the current timetable to sit and talk about their learning, there's a cost on it. It's relief. It's too expensive. So we find we try and find spaces in the week where we can have targeted conversations. It just doesn't feel like it's flowing.

DP-Kiwi ***Ability/Capacity***

And I think because the teacher is designing their own question, unless the coach is strong enough to be a critical friend of that person, that person may not develop as

much as you would want because they're not getting necessarily the feedback that they need in regards to what their practices.

School Culture

I found the relationship… If you've already got two systems, you know you've got middle leader, that is a head of faculty and then you have that coaching, and they have the same person, and they look at different things at that person that could actually put some tension, possibly.

I can honestly say, that's across any school I've worked at. And then that boils down to what underpins that relationship, that trust, professional trust, in that person, and whether or not you've got that.

The heads of faculty are really, really important in that model, because they're the ones who disseminate, if you like, what the senior management are bringing to them, from a strategic point of view, down to the to the teachers, back to their teams. So if you want to have shift, you have to be able to talk to HoD (…) where they can trust it and be able to share the why.

If we have to set up and if we're looking at a system that element of trust, I have concerns around if people have their head of faculty or their coach, and they don't have trust in that person, and they are meant to be working with them, then how might we accommodate a different system, or a different way for them to be able to have somebody they do trust, but can still be have the challenge that they need professionally to be able to move forward?

Individual needs

And another barrier is that the PLD, because it is centrally created, the question how much of the individual learning that's needed for that individual is really being focused on? If the teacher is an experienced practitioner (…) why would that person be doing the same program as a brand new teacher who may have a very different set of needs or requirements, so that could be a barrier insofar as that experienced teacher might be feeling like negatively and would like to be challenged, because they are at a different point in their learning journey.

So there's always that balance between the individual program and then the global needs. And how do we globally make sure everyone has the same message? It's a difficult choice, I think, to see what is the best, you know, form of PLD, depending on what you need, you really need to think about, what is the goal of that PLD, as you say, is that organization at the organization level, or is that at the pedagogy level of the individual?

Inquiry outcomes

We've got a big school every and you have a big school, yeah. So unless, unless every single inquiry is put side by side, and there is an oversight of those inquiries to say whether or not those teachers have moved, and that part there, I don't think is happening, because we've never publicised everyone's inquiries and everyone's outcomes.

DP-Tuī adds an external factor to the list: the Ministry of Education expectation. For them, the gap between what is practically possible in schools and what is expected needs to be addressed.

DP-Tuī I found that the ministry asking teacher to be educator but not giving the time to be really educator, not teacher. So we had teacher but we need to be educator as well

and we need to be learners and that's not quite following their requirement is here but as a gap between what is possible to do in schools and what actually the ministry is asking.

4.4.5 Enablers

Enablers are elements that produce positive outcomes, whereas barriers may either be part of the PLD system or part of the organisation's structure. The findings highlight the different lenses used by the DPs. DP-Tuī primarily focuses on elements that are indirectly linked to PLD effectiveness yet contribute to positive learning outcomes for teachers and consequently for students, while DP-Kiwi draws on her managerial lens and experience to explain important elements that will enable positive outcomes.

DP-Tuī ***Experienced teachers/Experts***

Practice and experience. And if you don't have both, it's very difficult to shift, to change, to grow.

The greatest benefits I've had has come from rich conversations with highly experienced teachers, subject experts, and then instructional inspirational leaders, my principal. Yeah. And that's grown me because it's that reflective talking, feeling, the confidence of somebody who's deeply invested in me.

And so quality experienced, inspirational, instructional, successful leaders who make time for those younger or less experienced. That to me is one of the greatest benefits how we can pass the baton or have future proofing because those skills and those the values and the vision.

Time and Reflection

You add that into education. That's successful. Because people say, you know, people e tangata, e tangata, tangata. People matter most. It's the people. It's the people. It's the people. But what does that mean? That means stopping, putting a boundary around time, removing all the distractions, and allowing talk, reflection, uptake, feedback, listening, feeling. That is transformative. The rest is not. It's just a process.

Togetherness

Systems do drive success but rich one on one people investment helps the new learner or the recipient feel value, feel honoured, feel that they belong, feel that their contribution is, you know, valuable in growing the organization. (...) So that rich value added respectful interaction, meeting together.

DP-Kiwi ***Consistency across the school***

So then the people in the waka, being your staff, are the ones who are going to paddle. And we want everyone paddling in the same direction. It's not about getting in the waka. It's actually about, PLD, to me, is about moving in the same direction.

Right now, our job is to watch those external forces, understand what's going on with those changes, and really get a heads up about what do we need to do within

> our kura to make sure that we're in a really good position, that we don't start to go into a panic.
>
> You know, obviously, with the changes we had with the new curriculum. That's more about the whole school, but then you have to follow up about what everybody has understood about that change.
>
> ***Explaining the why***
>
> If we change our system, the question is, the why? What's the purpose behind it? And so, so long as it fits a purpose, I think people actually can handle change and can understand the change if you allow them to understand the purpose of the change and the reasons why, but also don't, don't get them to move so quickly. (...). Not everyone's going to come on board. Every organisation has that. But you keep sharing the why, so that people can at least understand the reasons. And then when people can understand reasons, they usually get on board.

Finally, both DPs perceive their model of PLD and process as a way to triangulate the outcomes linked to the PLD learning.

4.5 Summary

The research design discussed in Chapter 3 includes a convergence of both quantitative and qualitative findings obtained from the surveys and interviews. Table 11 summarises this intersection. The themes that emerge from the quantitative and qualitative results are all related to the overarching theme of Effectiveness. This table outlines the emerging themes along with sub-themes for each data collection method, and it highlights the intersections in the lower section. Note that not all sub-themes are present at the intersection of both methods. When reading the themes, it is important to consider them in the context of effectiveness as perceived by the participants.

Table 11

Summary of Quantitative and Qualitative findings

Quantitative Result Summary	Qualitative Result Summary
System & Process ▪ PLD goal alignment: School, Teachers, Students ▪ Diversity of PLD needed ▪ Relevance PLD Quality ▪ Collaborative PLDs, Post-Grad studies Evaluation (after PLD) ▪ Accountability ▪ School and Personal ▪ Time to learn Follow-up ▪ Written reflection, Observation, Coaching, Specialist support ▪ No follow up: detrimental to personal growth Impacts ▪ On teacher practice (change, deeper thinking) ▪ Some connection with students' improvement Evaluation (overall) ▪ No overall school system to evaluate thoroughly the impacts of PLD on teachers and students	System & Process ▪ PLDs are for updating pedagogy, learning new teaching strategies ▪ Mentoring/Coaching ▪ Tied to school strategic goals, purposeful ▪ Consistency, Fidelity ▪ School culture, Togetherness Evaluation ▪ Learning Inquiry, Professional Learning Growth ▪ Collected evidence (teachers and students) ▪ Triangulation (PLD impact, teachers, students) is difficult to measure. Evaluation Positive impacts (teachers) ▪ Direct practice, hands-on learning strategies ▪ Collaborative practice, coaching, feedback/feedforward, support ▪ Integrated over time ▪ Deeper learning, reflection that permit change and impact students ▪ Relationship students and whānau Barriers to learning ▪ Lack of time: time to meet, time to learn, time to consolidate ▪ Overloaded learning cognition ▪ Individualisation: understanding the teacher learning journey (who are they, what do they need) ▪ Compulsory vs Choice, Differentiated PLDs ▪ Coach or Expert abilities
Quantitative – Qualitative Intersection	
System & Process ▪ PLD aligned with strategic goals at school, teachers, and students level ▪ Differentiated PLD ▪ Relevance ▪ Learning school culture Evaluation ▪ Accountability: personal and school purposes ▪ Integrated overtime	

Follow-up

- Collaborative practice
- Coaching, mentoring
- Reflection

Impacts

- Change of practice
- Deeper thinking and learning
- Relationships

5 Discussion and Recommendations

5.1 Introduction

This chapter presents a critical analysis and interpretation of the research findings reported in Chapter 4 and how they may relate to the existing literature in the field of Professional Learning and Development as outlined in Chapter 2. The primary objective of this research was to address the central question:

> How effectively do schools evaluate any ongoing impact of professional learning and development on teachers?

This key question led to the formulation of three additional inquiries, of which the following two are closely linked to the data collected:

> What expectations and systems are in place to evaluate the effectiveness of teacher PLD and how is this used?
>
> What enables and hinders teachers from associating their professional learning and development with improving student learning?

The findings are organised thematically according to these questions, addressing the six emerging key themes: Effectiveness, Process, Follow-up, Evaluation of Impact, Enablers, and Barriers. Data sourced from both the survey and semi-constructed interviews provided a combination of quantitative and qualitative insights, which are discussed in these sections. The chapter concludes by highlighting the limitations of this research, makes some recommendations, and offers a conclusion.

5.2 Discussion of Findings

5.2.1 Effectiveness

At the heart of each school are students and their educational journey. Senior leaders, middle leaders, and teachers all aim to create an environment where these students can thrive, not just their academic knowledge but also as individuals. This collective aspiration propels educators to explore the most efficient pedagogies for imparting knowledge and skills while

simultaneously pursuing their own professional growth. Consequently, teaching effectively is a fundamental aspect of the professional life of teachers.

The study findings reveal several common characteristics regarding the (in)effectiveness of PLD, as noted in the existing literature. Given the lack of consensus on what constitutes an effective PLD and how it impacts teachers' practice (M.M. Kennedy, 2016; Olofson & Garnet, 2018), the current discussion will not debate the efficiency of the PLD models or frameworks but may draw parallels between the findings and best practices whenever possible. As both schools, according to the Deputy Principals who were interviewed, predominantly employ internally dispensed PLD activities and engage an inquiry-based PLD, the discussion principally focuses on internally designed PLD. The shift in schools to inquiry-based PLD is motivated by the recently introduced Professional Growth Cycle which has become an integral aspect of the PLD strategic planning and processes. This cycle replaced the Teacher Appraisal in 2020 which was found to have minimal positive impact on teaching and learning outcomes (PPTA, 2020).

Mapping key points derived from the survey and the interviews, the effectiveness of PLD is perceived as encompassing the following characteristics. One primary assertion from the findings is that PLD must be rigorously planned, focused on content, and aligned to the school's strategic goals. Participants underlined the importance of the leadership team articulating the strategic goals clearly and providing a rationale for their implementation (i.e. 'the why'). Furthermore, the delivery of PLD must be consistent and accurately conveyed. The participants' sentiment is echoed by Main and Pendergast (2015), who advocate for PLD to align with the broader school strategies aimed at improving student outcomes. Additionally, Merchie et al. (2018) identify essential features of effective PLD: retaining core features such as content focus, pedagogical knowledge, coherence, and evidence-based practices. This underscores the necessity for cohesion and continuum between these elements. Moreover, Muijs and Lindsay (2008) stress the importance of embedding PLD within an ongoing programme rather than treating it as a standalone initiative, thereby ensuring its alignment with the school's goals.

5.2.2 Process

The need for consistency and fidelity in transmission and processes in PLD was raised in the interviews. It is essential that PLD be designed as a continuous and rigorous system allowing comparison of outcomes across the school. This approach is vital for gathering evidence to assess not only the overall effectiveness of the PLD system but also the practical application of the acquired knowledge and the resulting changes that foster positive outcomes for both

teachers and students (Didion et al., 2020; Muijs & Lindsay, 2008). Additionally, as M.M. Kennedy (2016) points out, establishing a shared vocabulary is instrumental in cultivating coherence in the understanding and application of pedagogical strategies.

While the process and the follow-up approaches differ between the two schools, similar goals are pursued. Both schools aim to provide a clear path for teachers, simultaneously functioning as an accountability system for performance management and for personal learning and growth. Reflection, feedback and feedforward, kōrero, and presentations assist teachers in identifying their journey, from grasping new knowledge to implementing changes in practice. At the Kiwi School, internal PLD sessions centred on themes aligned with the strategic goals are delivered to the entire staff through a blend of traditional PLDs and small group work. The DP-Kiwi argued that consistency across the school is necessary to ensure that all members are "paddling" in the same direction, rather than merely being in the waka. At the Kiwi School, it is the responsibility of the SLT to unpack the message during staff sessions which helps maintain the fidelity of the message and implementation both across the school and at the small group level where conversation and questions further enrich the process.

However, it is important to recognise that the message may not be explicitly understood in the same manner by everyone. Variances between the intentions of the PLD and their practical implementation may limit the degree of learning (Bishop, 2023; Fraser et al, 2007). Challenges may emerge not only when the message is received but also in the retention of this imparted knowledge. Clarity of the message along with the consistent application of learning over time is paramount for effectiveness. Designing a PLD programme that considers both teacher learning and knowledge retention is essential for creating a strong foundation that ensures the viability of the impact and changes (Liu & Phelps, 2020). Both schools have established a process to assist teachers in their learning journeys. At the Kiwi School, various checkpoints are integrated to verify comprehension of the message and the effective application of the PLD theme, whereas the Tuī School prioritises the understanding of the content and teacher reflective practices, ultimately leading to practical implementation within the classroom settings.

5.2.3 Follow-up

The significance of follow-up and reflection in the realm of teacher learning and practice cannot be overstated. Therefore, they must be included meaningfully in the process, along with a sustained follow-up to effectively influence change in practice and ultimately improve student outcomes (Guskey, 2009; Ingvarson et al., 2005). A model frequently referenced is Continuing

Professional Development (CPD). The model is designed to ensure that strategies are integrated into the learning process for teachers to enact teaching practices over time and thoroughly to embed them in the classroom context while also addressing teachers' needs. Main and Pendergast (2015) emphasise the necessity of ongoing professional support not only throughout the implementation of the new learning, but also after the collection of evidence stemming from that learning experience.

Within the scope of this study, the follow-up is clearly defined and is an integral part of the PLD process in both schools. These activities include designated time allocations and the assignment of an individual coach or supervisor to support teachers. As noted in Chapter 4, one third of participants perceived the school follow-up as very satisfying, with another third feeling 'neither satisfied nor dissatisfied', indicating room for improvement. However, participants reported that the time allocated for the follow-up meetings presents challenges and may not produce the desired effect. Without robust, sustainable follow-up that is intentionally incorporated in the timetable, the impact of the PLD activities cannot be fully realised. However, it is recognised that follow-up is time-consuming, resource intensive (e.g., requiring a coach), and financially demanding for schools.

At the current level of PLD implementation in both schools under study, there is no evidence of the measurement of student outcomes in the PLD design, processes, and follow-up. By participating actively in a PLD, teachers will "automatically" improve their practice and impact on student outcomes. This appears to be a commonly held belief rather than being backed by a data-driven framework. To ensure that the effectiveness of these initiatives is sustained, the impact on learning and changes in teaching practices should be monitored well beyond the conclusion of the process. Specifically, Didion et al. (2020) question how long do teachers continue to use new techniques or do they reverse to their previous practice once the process is ended?

5.2.4 Evaluation of impacts

The study delineates two types of methodologies for evaluating the impacts on teachers. The first methodology employs the Professional Growth Cycle to assess the effects of PLD on teachers (see 5.2.2 section). This evaluation encompasses reflective practices and the practice changes implemented in the classroom. In this evaluation process, the instructional coach at the Kiwi School and the SLT at the Tuī School are responsible for conducting the evaluation. Their capacity to support and evaluate the teachers' progress is key for informing the school of

the impacts of the PLD programme. Consequently, it is essential to clearly define the goals (i.e. what it is we want to change) in the PLD design before its implementation. Both schools have efficaciously aligned their internal PLD sessions with the school's strategic goals and thus provide a bounded direction.

To ensure the certainty of impacts, the evaluation process should maintain consistency across all part of the PLD design, in particular how evaluation is processed, to allow for comparability of results. Despite the diverse forms of evidence collected in both schools, the continuous gathering of evaluative data poses challenges within the routine context of educational organisations. Moreover, evaluations conducted post-PLD completion may fail to demonstrate the causal relationships between the impact of PLD on teacher practice (Borg, 2018). Typically, favourable results are interpreted as an increase in student achievement outcomes. Survey responses indicate that the majority of participants regard summative assessments as the primary source of data for assessing the impact of teaching and learning. Furthermore, survey responses also show that participants can make connections between the PLD and student improvement. Some participants have also considered the key competencies and the communication with the whānau in their evaluations. These responses resonate with the three areas of evaluation highlighted by Timperley et al. (2007): achievement outcomes, student engagement, and well-being.

However, any transference of the PLD impact from teacher to students is frequently considered as an "indirect impact of efficacy" (Ingvarson et al., 2005). Isolating the unique impact on students is challenging, typically requiring long-term goals, ongoing follow-up, and the embedding of PLD in the school culture to statistically demonstrate a sustained visible effect on student outcomes (Admiraal et al., 2020; Nordengren, 2020). To the contrary, survey findings indicate that participants assertively infer a causal effect between PLD and improvement of student outcomes, despite the absence of indications of the establishment of long-term goals exceeding a year. Notably, participants did not mention the utilisation of measurement tools during the study. Considering an extended timeframe could present an opportunity for future consideration, as existing literature underscores the ongoing application of newly acquired knowledge beyond the PLD sessions (Guskey & Yoon, 2009; Liu & Phelps, 2020; Walsh et al., 2022).

Furthermore, the evaluation of teacher reflective competence is a complex task (Borg, 2018). The outcomes stemming from the reflexive practices may be shaped by various factors, including teacher capacity, their willingness to adopt new practices, and their beliefs. Nonetheless, regular kōrero, as effectively implemented in both schools, can provide deeper

insights into these dynamics. According to the Deputy Principals, the measurement and evaluation of impacts, particularly concerning student outcomes, are perceived as an intricate web of complexity. One Deputy Principal remarked, "It's quite tricky!" (DP-Kiwi), while another noted, "Is there an impact on student learning? Is it anecdotal? Can we measure it? That, to me, is debatable. That's a tough one!" (DP-Tuī).

5.2.5 Enablers

Enablers are elements closely associated with the design and implementation of the PLD. According to the literature, these elements are recognised as pivotal in fostering the effectiveness of PLD and its impact on teacher learning and transformational change (Garrett et al., 2019). Noteworthy among these enablers are 'content focus', 'collective, collaborative learning culture', 'support from and expert', 'active modelling', 'high-trust approach', and 'reflection' (Alton-Lee, 2008; Darling-Hammond et al., 2017; Gore & Rosser, 2022).

The findings of this study corroborate existing literature by highlighting similar elements that promote learning and growth. Participant responses provided a range of effective elements of their PLD school approaches, emphasising that active practice, such as hands-on activities that aligned with the presented content and contextually applicable strategies, was especially beneficial. Key elements identified as facilitating the continuation of learning after completion of a PLD activity include 'collaborative practice', especially with colleagues who teach the same subject, having an 'expert support' (e.g. a coach), opportunities for 'follow-up sessions', spaces conducive to deep learning, reflection, and the gradual integration of the new pedagogical practices. Interview responses further substantiate these findings. Particularly, the group discussions in both schools provide a collaborative practice space, enabling teachers to share their personal learning journey. Although the PLD design in both schools is not explicitly labelled 'Community of Practice' (CoP), numerous characteristics associated with CoP are evident within each school's systems and processes. Notable characteristics include the establishment and maintenance of the CoP by the Senior Leader Team, the provision of a coach or leader equipped with the necessary personal and professional skills to lead a small group and support individuals, and the promotion of a high-trust culture throughout the organisation.

Developing a learning culture rooted in trust and respect is a complex endeavour; it necessitates time and is vital to the overall success of a school. In other words, the significance of relationships and a collective sense of responsibility for learning create optimal conditions for success. Some studies suggest that schools characterised by high levels of collaboration

and cohesion among teachers achieve better academic performance (Gore & Rosser, 2022; Muckenthaler et al., 2020). Summing up, teachers experiencing such a supportive learning environment benefit from gaining a deeper understanding of how to address student needs through the collaborative work and from drawing valuable insights from colleagues across various year levels and subjects.

5.2.6 Barriers to effectiveness

Barriers significantly reduce the effectiveness of PLD, ultimately impacting teacher learning and, by extension, student outcomes. This section considers the barriers identified by participants, which include time constraints, adult learning, and PLD quality, at both personal and organisational levels. It is noteworthy that enablers identified in the study may also be conceptualised and experienced as barriers under different circumstances.

5.2.6.1 Time and Adult Learning

The cognitive processes underpinning learning are closely tied to the time invested in learning to become part of our unconscious processes and habits. Cognitive overload from excessive information or fatigue from constantly switching teaching subjects and classes throughout the day may diminish a teacher's capacity for concentration and reflective practice. As mentioned in King (2014) "[i]f improving student learning is the goal of PLD, the focus of the programme should not only be what teacher learns, but whether the learning lasts long enough to make it to the classroom" (p.545).

The survey responses reveal two main perspectives on the time spent on PLD activities. Some participants believe that the time allocated to engage with the content of these activities is sufficient, allowing them to share their new knowledge with others and apply it in their classroom. However, other participants feel that even though they have enough time to engage with the PLD content, they would benefit from additional time or training to reflect on their new learning and deepen their understanding. Furthermore, participants stress in the open-ended question section of the survey that having sufficient time is crucial for retaining and effectively applying their newly acquired knowledge in the classroom. Additionally, they recognise that this is not only for their professional growth but, most importantly, for the benefit of their students. The participants describe retention of learning as an intricate process involving "rumination" and reflection, the implementation of new learning or tools, and the solidification of new

practices to make them their own, all of which contribute to making learning sustainable. DP-Tuī, as a leader, envisions that providing additional time would facilitate deep engagement with their learning journeys, thus enabling teachers to apply their learning over time. Ideally, having long uninterrupted periods of time for processing, alongside professional conversations and feedback is considered by DP-Tuī as a cycle of learning to foster a comprehensive understanding. Moreover, the study results align with the existing literature in several points. Participants often refer to the way adults learn and their professional needs. For them, learning has to be *active*, preferably situated in their working environment, and the topic relevant to their needs. When participants recognise the quality and impact of PLD on their practice, they usually desire more time dedicated to reflection to espouse theory to theory in practice, an essential aspect of teacher development (Reynold, 2011). Therefore, creating dedicated reflection time enhances follow-up efforts over time, acknowledging that learning is a multi-dimensional process that benefits from a collaborative setting where colleagues can co-construct knowledge together at a reasonable learning pace without cognitive overload (Youngs & Ogram, 2024).

Despite many participants acknowledging their small group discussions and coaching sessions as beneficial, they felt that these reflections may lack depth. The rapid pace of some PLDs was critiqued, and meetings were not always intentionally planned at the organisational level. Although many schools in Aotearoa New Zealand have integrated PDL activities into their timetable, follow-up, reflection, and efforts to implement change mostly occur outside of this scheduled time. Thus, to enhance effectiveness, the reflective space must be prioritised and thoughtfully facilitated. Given the close link between retention and the individual's learning experiences, whether past or present, the follow-up design should ensure comprehensive measures to safeguard and augment that knowledge by incorporating, for example, observation and collective insights.

5.2.6.2 The personal sphere

The personal sphere of PLD is a complex terrain influenced by various factors, including the quality of content, the expertise of facilitators, and, notably, the differentiation within PLD events. A significant barrier to effective learning arises from the lack of tailored PLD activities, which affects the relevance for individual participants. According to Korthagen (2017) "[implicit] learning takes place unconsciously and involves cognitive, emotional, and motivational dimensions" (p.387). Evans (2019) articulates this idea as "behaviour, attitudes and

intellectuality" (p.7). Consequently, the evaluation of reflection on learning and retention of learning presents challenges within the PLD design as the learning experience is deeply intertwined with the teacher's persona. Since the learning processes are inherently individual, and unpredictable, the student outcomes evaluation also becomes problematic. Moreover, it is recognised that addressing the 'wants and needs' of teachers, the motivational dimension of learning, may lead to a higher quality of teaching (Avidov-Ungar & Herscu, 2020; Didion et al., 2020; M.M. Kennedy, 2016).

To effectively understand how teachers learn, the design of PLD must consider the identities of teachers. Just as educators are encouraged to "Know your students" during their training, school leadership teams (SLT), coaches, and heads of departments should adopt the principle of "Know your teachers". Such comprehension involves recognising teachers' identities, beliefs, competencies, and behaviours to cater to their unique learning needs. Participants who expressed frustrations about the lack of differentiation in PLD reported being less motivated, particularly when they had concerns to address in their classrooms. For some, their responsibilities extend beyond the classroom realm, necessitating alternative forms of PLD such as a professional learning group for deans, supportive networks, or specific PLD for the guidance and counselling team. Others expressed their desire to engage in self-learning, especially for those with a long service in education. Understanding the teacher's learning journey requires a comprehensive approach that goes beyond learning the content and applying it. It necessitates a thorough understanding of the social and cultural processes at play as well as the personal and psychological ones (Bandura, 1986; Tschannen-Moran & Hoy, 2007).

5.2.6.3 The organisation level

At the organisational level, the survey emphasises the importance of providing teachers with well-designed follow-up for it to be beneficial. Thus, schools should incorporate a variety of tools into their PLD design, such as coaching interviews, feedback/feedforward, and in-class observation, to evaluate the acquisition of new knowledge and its application resulting from PLD activities. The tools used should be tailored to the specific type of PLD, align with set goals, and accommodate the learning styles and needs of the teachers.

Moreover, the themes of trust and relationship emerged as critical factors of PLD among the educational leaders. DP-Kiwi expressed concerns about the potential tensions that may arise within the school structure, particularly regarding the roles of the Head of Faculty and the coach when supervising the same teacher. DP-Kiwi sees the necessity of careful communication and

collaboration between the coach and the Head of Faculty for the development of a cohesive vision and strategies to support the teacher's learning and growth. Furthermore, establishing trust between the Head of Faculty and the teacher becomes vital for nurturing an environment conducive to sharing, engagement, and changes in practice. The difficulty for the DP-Kiwi lies in finding a way to integrate a different system into an established process while providing a trusted figure who can replace the Head of Faculty in the role of facilitating knowledge-sharing. This situation illustrates the nuanced nature of relationships within the school's professional learning frameworks.

In discussing school culture, DP-Tuī emphasises the importance of teachers having a sense of ownership over their learning which cultivates a sense of fellowship and belonging. This environment encourages open sharing and constructive feedback, contributing to a sense of togetherness. When knowledge and learning are valued in this way, respectful and trusting interactions can flourish.

Financial resource allocation presents a significant challenge for educational organisations. Constraints on teachers' participation in external PLD opportunities or securing inspirational educators and specific PLD programmes hinder the overall learning. Despite the implementation of robust internal PLD systems across the three schools under study, responses from the survey participants indicate a notable desire for more external PLD opportunities that focus on specific subject content compared with internal PLDs that focus mainly on pedagogical content. This difference may result in only a portion of the new subject knowledge being shared with the faculty members. One middle leader articulated the difficulty of providing access to external PLD for her entire team, which placed the responsibility of disseminating that knowledge solely on her. It is noteworthy that the teacher's comprehension of content is intricately linked to their personal experiences. This can result in filtering information that might be beneficial for other team members.

As schools in Aotearoa New Zealand focus on PLD as a collaborative practice, the importance of having adequate time for effective collaboration becomes evident. Participants clearly expressed the strong need for dedicated time to collaborate, as well as the flexibility to choose their individual learning paths. Coach-led meetings held during lunchtimes or after classes, when fatigue often sets in, are unlikely to yield productive outcomes as many participants voiced in the survey that these meetings lacked opportunities for deep learning. However, the issue transcends individual school organisations and calls on the New Zealand Ministry of Education to acknowledge the critical importance of providing sufficient time for effective learning, a challenge that teachers encounter daily. Amid increasing pressure on schools to

enhance numeracy and literacy outcomes in Aotearoa New Zealand, targeted PLD initiatives with sustained support should be implemented to afford teachers the necessary time to advance their professional skills, ultimately benefiting student learning outcomes.

Finaly, the sustainability of PLD programs must be critically examined, especially when observable student progress remains elusive. Effective implementation of these initiatives necessitates addressing the systemic challenges and fostering an environment rooted in trust and collaboration.

5.3 Exploring data insights and interpretations: Question 9.1

This chapter has repeatedly highlighted the difficulties in interpreting results due to the numerous factors involved that have not been measured by the researcher. This section gives an example of how Question 9.1 results are affected by other components.

Five participants completed the same internal training on Positive Behaviour for Learning (PB4L). All participants have over 15 years of professional experience and are from the same school. The training was conducted internally after school. Table 12 presents the responses to eight statements measured on a Likert scale ranging from Strongly Disagree to Strongly Agree.

Table 12

Summary of statement for Question 9.1

Abbreviation: S.A = Strongly Agree; A = Agree; SW.A = Somewhat Agree; N.D. or A = neither disagree or Agree; SW.D = Somewhat Disagree; D = Disagree; S.D. = Strongly Disagree. Part = Participant

Question 9.1 - Statements	Part-1	Part-2	Part-3	Part-4	Part-5
The PLD activity content was relevant to my current teaching position.	S.A	SW.A	S.A	S.A	N.D. or A
I gained new knowledge or skills that are relevant to my teaching practice.	S.A.	S.A	SW.D.	SW.A	N.D. or A
I would be able to integrate this PLD activity in my day-to-day practice.	SW.A.	S.A	SW.A	N.D. or A	N.D. or A
The PLD activity I have attended has helped me to improve my own practice.	SW.A	S.A	N.D. or A	SW.A	N.D. or A
This PLD activity has helped me to understand better the needs of my students.	SW.A	SW.A	SW.D	N.D. or A	N.D. or A

As a consequence of participating in this PLD activity, I have seen my students' outcomes improving.	N.D. or A	SW.A	SW.A	N.D. or A	N.D. or A
This PLD activity did meet my learning goals.	N.D. or A	S.A	SW.A	N.D. or A	N.D. or A
I believe this PLD has enhanced my current knowledge and skills.	N.D. or A	S.A	S.D	N.D. or A	N.D. or A

The responses displayed a significant variation among the participants. Participant-2 was the most satisfied, while Participant-5 questioned the usefulness of this PLD activity. Participant-3 expressed clear dissatisfaction, commenting that the PLD did not "cater to the gaps in knowledge that are forming as the curriculum evolves". When examining participants individually, their answers showed greater consistency across the eight statements.

Although this analysis is somewhat rudimentary due to the limited data, it illustrates the challenges of making generalisations about the effectiveness and impact of PLDs. Even when the process of learning in an organisation is systematic, active, and interactive in its nature as well as contextually situated in time and supported over time, the multi-dimensions and factors influencing the outcomes of teacher learning greatly affect the PLD effectiveness. Regarding the interpretation of the impacts of PLD on teachers' learning, Evans (2019) goes as far as saying that identifying the causal effect based on evidence "is impossible to identify and pinpoint" (p.6). Therefore, the measurement of effectiveness should only refer to the teacher with evidence of a change of practice developing over time rather than "immediately" as studies may suggest.

The majority of studies on PLD effectiveness examine the phenomenon within a narrow context. This may include a particular teaching area, a specific tool, or a specific school year as Evans (2019) points out. Furthermore, research highlighting positive results on student outcomes primarily focuses on the primary years where changes in student learning are the most anticipated compared to the high school years. Moreover, several studies predominantly target STEM subjects, leaving a gap in research on other learning areas. Additionally, international research typically concentrates on specific instances of PLD activities while overlooking the role of coaches, mentors, and other experts who provide ongoing support and follow-up during the teacher's learning journey (McChesney et al., 2024). A New Zealand study demonstrated that regular follow-up linked to the teacher's yearly goal, along with a tracking process system, resulted in improved teaching practice and student outcomes for at least 45% of the participants (Bennett, 2022). This aspect is particularly pertinent to this study as, although

follow-up and coaching support are valued by the two schools involved, the actual impact on teacher effectiveness is not measured transparently. DP-Kiwi points out that teachers' inquiries are not all thoroughly analysed or compared, stating “to say whether or not those teachers have moved, and that part there, I don’t think is happening”. These issues highlight the complexity behind overarching claims regarding PLD effectiveness, which may often be misleading.

Finally, as discussed in the Personal Sphere section, participants’ responses suggest a need to choose a learning path that enhances their motivation and addresses the gaps they perceived as critical for their classroom practice. This is supported by the findings in the 2021 National Survey of Secondary Schools (NZCER, n.d.), which revealed that three-quarters of teachers did not select their PLD as it was mandated by their school, and only one-third reported finding the PLD useful (McChesney et al., 2024). Therefore, school PLD could benefit from taking teacher profiles into account to better meet individual needs.

5.4 Strengths and Limitations

The findings of this case study must be interpreted within the context of its strengths and limitations. The use of a mixed-methods approach enabled me to present stronger data, offering a comprehensive overview of constructive aspects of PLD systems, associated processes, and follow-up. It also highlighted significant gaps in two of the schools. These insights are substantiated by the existing literature, particularly in relation to the qualitative data collected during the study. Given that this study is situated in Aotearoa New Zealand, it should be considered with reference to the international literature presented in Chapter 2. Nevertheless, the parallels drawn between this study and international studies suggest that PLD practices in New Zealand reflect trends observed in the English-speaking world.

A critical limitation of this study was the limited number of responses obtained from both the survey and interviews, which resulted in a reduction in the depth and breadth of the findings, a challenge often encountered by PLD researchers (Goller et al., 2022). This calls for the consideration of the validity of this study. Furthermore, some responses indicated that certain questions were unclear to participants; the survey questions should be revised for clarity should they be reused in future research. Moreover, to effectively evaluate PLD practices, it is necessary to define the criteria against which effectiveness is measured and to include a control group to provide a meaningful comparison. In this study, the absence of a control group

limits our ability to evaluate best practices in follow-up, as the analysis relies solely on the literature provided.

In addition, the coding process included both straightforward and interpretative elements. The interpretative nature of the data introduces complexities due to the inherent subjectivities that influence our understanding and communication of experiences of the world. For instance, the interpretations of the themes relied on both the frequency of data and my researcher perception regarding their relevance to the study. Challenges during the interviews arose from the need for shared vocabulary and comparable understanding of the topics between the researcher and interviewees. In this case, substantial care was taken to accurately interpret the content shared in the Deputy Principal interviews to remain faithful to their intended messages. Despite establishing a relationship of trust during the interviews, the Deputy Principals may have felt uncomfortable voicing underlying doubts more openly. A follow-up interview would have provided additional insights.

Lastly, direct access to the schools for live observation of the processes, along with the opportunity to ask further questions, would have supplemented the comprehension of the PLD design and implementation in the participating schools, leading to a deeper comprehension of the elements at play.

Despite these limitations, it is hoped that this study will stimulate meaningful discussions regarding the identified gaps, particularly in relation to the follow-up space following the PLD activities, which will be summarised in the next paragraphs.

5.5 Implications of the findings and recommendations

Investigating the space after the professional learning and development reveals a need for improved PLD design and processes as well as clarity on best practice for evaluating the impacts of PLD, firstly on teachers and then on students. Additionally, this study emphasises that understanding adult learning science and the time required for valuable learning are key elements for effectiveness. Currently, the evaluation of impacts is inconsistent; the results often reflect perceptions rather than measurable changes in teacher practices and student outcomes. In the following section, I will address specific points that should be considered in the making of PLD and its implementation and for future research recommendations.

5.5.1 Integration of theories of adult learning

To effectively improve on teacher performance and student outcomes, the design and processes of school PLD need thorough evaluation. However, without a deep understanding of adult learning theories and theories of action, as well as insight into models and frameworks for PLD effectiveness provided by researchers, the design may not adequately support the educators involved in these PLD activities. None of the participants mentioned specific theoretical models or frameworks in their PLD programme or design; thus, it remains unclear which models or frameworks were used in the design of PLD programmes in these schools. Considering that is an important aspect for ensuring effectiveness, it is recommended to establish clarity around the use of framework(s) as an integral part of the design and of process practices to create a comprehensive and cohesive PLD system.

Additionally, the design must account for individual behavioural, attitudinal, and intellectual dimensions, ensuring the integration of these aspects into the PLD design. Furthermore, a comprehensive understanding of the educators' needs is essential to ensure that the PLD activities align with both their requirements and the goals of the school, an imperative matter that PLD providers must take into account. It is recommended that coaches and mentors gain an in-depth understanding of their teachers' learning journeys, while also recognising the cognitive overload as a barrier to learning.

5.5.2 Time for learning

Following the principles of learning science, educators need time to learn and for that learning to become incorporated into their practices and habits over time. Being aware of the different stages of learning in the design of the PLD programme will provide a supportive system for deep learning. Allowing time to learn at a pace where learning can be "tasted", chewed, ruminated, questioned, and ultimately practiced, their learning will enhance the likelihood that such knowledge will lead to changes in their practices and improve students' learning. Time is necessary for the cognitive mechanism of learning to be realised at a deeper level.

To determine whether changes in practice and student outcomes resulting from PLD activities are yielding real gain, the call for longitudinal approaches to PLD in school is imperative. It is advised that schools develop strategic PLD plans that extend beyond the typical school year, to not only evaluate the impact of PLD but also to obtain a deeper understanding of the needs of both students and teachers. Time for learning must also encompass opportunities for personal

growth, such as pursuing postgraduate studies or other courses. This recommendation is well-founded for future research to look at change and retention of the learning of PLD over time.

5.5.3 The PLD Direct Practice and follow-up

Participants in the survey pointed out that PLD activities incorporating direct practice, such as hands-on or collaborative experiences, are essential for effective learning. Continuous follow-up with educators by mentors or coaches permits a consistent approach to the evaluation of the learning and its impacts and, thus, effectiveness. Collaborative practices resulting from PLD provide a platform for teachers to become not only teachers-as-learners but also teachers-as-researchers.

5.5.4 Creating a learning space

The creation of a learning space involves the school leadership team creating a focused dynamic of learning and openly discussing necessary changes within the organisation to enable that learning space to exist. This may require adopting the "less is more" approach, recognising the benefits of extended reflection and kōrero periods of ongoing learning and follow-up check points, which can reveal unrecognised needs and results.

5.5.5 The hybrid approach

The creation of learning is not solely about the physical environment and additional time. It also involves determining what to learn and for what purpose. This study establishes that teachers regard themselves as professionals who understand their needs and advocate for a more flexible system of PLD rather than a "one-size-fits-all" approach. When adequate and contextual, PLDs should be tailored for individual teacher needs which can enhance not only motivation but also ownership, accountability, sustainability, and change in practice.

Building on poststructuralist approaches, it is vital to view the teacher identity as dynamic and fluid, rather than a linear progression. There is a clear need to consider a learning approach that is flexible and connected to the individual as well as to the local socio-cultural context. Offering a hybrid PLD approach can meet the needs of educational organisations by providing uniform PLD activities for all when necessary, while also addressing individual needs.

5.5.6 The difficulty in evaluating impact

Evaluating the impact of PLD programmes after their active phase is particularly challenging. In this study, it was noted that schools lacked a system to measure these impacts, relying only on coach reports of teachers' progress and reflections. As the Ministry of Education requires evidence of these impacts in tangible ways, it is primordial for educational organisations and PLD providers to understand what should be evaluated, along with the enablers and barriers to acquiring, retaining, and implementing the learning over time. Furthermore, there is a need to investigate PLD policies, structures and evaluation tools to provide empirical research on impacts and the benefits of PLD programmes in schools. In addition, schools must understand how to use measurement tools adequately and give training to use them effectively.

5.6 Conclusion

This research has explored the Professional Learning and Development (PLD) system, specifically focusing on the follow-up space after the active learning phase is completed, as well as the perceived barriers and enablers to effective PLD. The study addressed two critical questions for schools in Aotearoa New Zealand: how schools evaluate the effectiveness of PLDs and how schools assess the impact of PLD on teachers.

The findings of this research provide an analysis of the factors involved in evaluating the effectiveness of the PLD design and programmes, offering a comprehensive overview of participants' perceptions regarding their school PLD programmes. It has also highlighted their needs and identified barriers that hinder their engagement in learning.

While the schools in the study have implemented effective PLD designs aligned with their goals and those of the Ministry of Education, substantial gaps remain, particularly in the evaluation processes of PLD. This calls attention to the necessity for a robust understanding of adult learning theories and evidence-based frameworks. The study emphasises the importance of incorporating a diverse range of PLD frameworks within educational settings to effectively address the complex needs of educators effectively.

To achieve this, schools should prioritise individualised approaches that consider the diverse dimensions of educators' experiences. Additionally, they should provide adequate time for deep learning and reflection, and ensure ongoing support through direct practice and collaboration, which are essential for sustaining lasting changes in teaching practices. Prioritising the creation of a purposeful learning space and acknowledging the identity of the teacher will empower

them to engage with their roles as learners and researchers. Most importantly, consideration of a shift toward a hybrid PLD system may well enhance teachers' motivation and ownership, ultimately leading to more effective practices.

Looking ahead, it is imperative for schools to implement strategic, longitudinal approaches to PLD. Such initiatives will facilitate a deeper understanding of teachers' evolving needs, the lasting benefits of new practices, and the challenges of continuously adapting their practice. By considering the earlier recommendations, educational organisations can support a transformative culture of learning. By creating supportive learning spaces and the evaluative follow-up over time, schools will be better positioned to impact teacher learning and foster student success.

As educators, our business is the learning of our ākonga. As such, the Professional Development and Learning purpose is to, principally, enhance the learning experiences of our ākonga to ultimately impact not only their academic outcomes but more than anything, their future pathway. Without promoting *mana-tangata* this cannot be accomplished.

~ Giordana Santosuosso

5.6.1 References

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5.6.2 Glossary

Source: Te Aka Māori Dictionary online

āko	to learn, teach with the idea of reciprocity
ākonga	student, learner
kete	basket
mana-tangata	power of a person (mana: prestige, authority; tangata: individu)

5.6.3 Appendices

5.6.4 Appendix A 9 Principles (Alexander et al.)

Principles:

Principle 1 Learning is change

Principle 2 Learning is inevitable, essential, and ubiquitous

Principle 3 Learning can be resisted

Principle 4 Learning may be disadvantageous

Principle 5 Learning can be tacit and incidental as well as conscious and intentional

Principle 6 Learning is framed by our humanness

Principle 7 Learning refers to both a process and a product

Principle 8 Learning is different at different points in time

Note. List of nine learning principles. From " What is learning anyway? A topographical perspective considered," by P.A. Alexander, D.L. Schallert, R.E. Reynolds, 2009, *Educaational Psycologist, 44*(3), p.178.

5.6.5 Appendix B Guskey's Five levels

Level	**Definition**
Level 1: *Participants' Reaction*	The evaluation of this level is the most common and usually administered immediately after the professional development experience.
Level 2: *Participants Learning*	The measurement of the learning, that is, the newly acquired knowledge and skills from the professional development experience. A collection of evidence from a variety of sources (e.g. participant portfolio).
Level 3: *Organisation Support and Change*	The gathering of information on organisation policies and procedures, advocacy and accommodation in regard to professional development and the use of information to improve and inform future initiatives.
Level 4: *Participants' Use of New Knowledge and Skills*	The collection of evidence that may show a difference in the participant professional practice and how well these are applied in the classroom (e.g. participation reflections, inquiry).
Level 5: *Student Learning Outcomes*	The measurement of the impact of the professional development on student learning. At this level, learning outcomes considered are not only academic improvement, but also affective outcomes and psychomotor outcomes. The indicators of success would have been outlined at the very beginning of the professional development experience.

Note. From "*Evaluating Professional Development. By T.R. Guskey, 2000, Corwin Press.*

5.6.6 Appendix C Desimone's Professional Development framework

Content focus. Professional development which are specifically using subject content and how students learn this content will increase the knowledge and skills as well as practice of teachers. Desimone notes that this feature is will represented in the literature, however the effect is more limited when correlated with student achievement.

Active learning. Hand-on activities are correlated to effectiveness of professional development as opposed to lecture-like activities. It is not clear how the author come to the conclusion using the literature that this feature is correlated to effectiveness. One could argue there are good lecture-like PLDs and bad hand-on PLDs.

Coherence. This feature is related on the one hand to the teacher learning being consistent with the teachers' knowledge and beliefs and on the other hand to external coherence such as the school policies.

Duration. How long a professional development should be to be effective is not well established. What it is know is that for changes to happen, sufficient time is necessary for the learning to be embedded in the teaching habits.

Collective participation. Collective participation is recognised as a powerful form of learning. It is seen as a formal professional development interactions between teachers as in department meetings or teachers only day.

Note: From "Improving impact studies of teachers' professional development: Toward better conceptualizations and measures", by L.M. Desimone, 2009, *Educational Researcher, 38*(3), p.181-199.

5.6.7 Appendix D Letter to Principal

Date:

Dear xxx

Kia Ora

My name is Giordana Santosuosso. I am currently the Poutiaki Ako / Leader of Learning Area for Languages at Mangakōtukutuku College in Hamilton which will open in January 2024. I am writing to request permission to conduct my research thesis for my Master of Educational Leadership (MEdL) degree at your school.

Should you agree to permit your school to participate in the study, I would like to opportunity to research your school's Professional Learning and Development design and implementation, as well as examine the processes your school has in place to follow up on teachers after they have completed a professional development activity. I am seeking permission to send an anonymous survey (no self-identifying information will be asked for) to all teaching staff members and conduct face-to-face semi-structured interview (virtually or in person) which I anticipate will take no longer than 40 minutes. I am interested in meeting with up to two participants who will have voluntarily answered the survey and completed an invitation to participate further in this research. If more than two participants, volunteered I would select the two with the most responsibility for PLD.

I have identified your school as a site of interest after reading your latest ERO Report, which noted the school's ongoing culture of learning and having Professional Learning and support for teachers ongoing learning at the forefront. I understand that welcoming an outsider into your school, collecting information using a survey and ask questions about some aspect of your school is a potentially fraught activity. I can assure you that every attempt will be made to ensure that both your school and staff's identity remain confidential. At no time will your school or staff's name be employed either when in the transcribed data, in the thesis manuscript or any

subsequent publications; all staff participation will be entirely voluntary and will have the choice to answer or not any question.

I would very much welcome the opportunity to discuss with you personally the nature of my research proposal and its potential benefit to your kura. Should you be open to the possibility of welcoming me into your kura, I can be contacted at giordana@xtra.co.nz.

Alternatively, please feel free to contact my thesis supervisor Dr Howard Youngs to discuss any aspects of the study; he can be reached at howard.youngs@aut.ac.nz.

Thank you for considering my request. I look forward to the opportunity of meeting with you personally to discuss my proposal and your school's involvement in my study.

Your sincerely,

Giordana Santosuosso

Approved by the Auckland University of Technology Ethics Committee on 30.10.2023 AUTEC Reference number 23/283.

Note: The head of the organisation should retain a copy of this form.

5.6.8 Appendix E Information Sheet for Survey

Date Information Sheet Produced:

27th of October 2023

Project Title

Professional Learning and Development after the active learning phase: Case studies of New Zealand schools

An Invitation

Thank you for expressing an interest in participating in my research project. I am in my third year at Auckland University of Technology, studying part-time towards a Master of Educational Leadership. I have recently started a new journey being part of the establishing middle leader team of Mangakōtukutuku College in Hamilton which will open its door in 2024. I am passionate about the middle level leadership role, in particular the possibility to foster learning growth within my team and more generally at my school. This passion for ongoing learning has led me to scrutinise the way schools implement their Professional Development and Learning, how they support their staff in their learning journey, how this learning is used to change, or not, their practice, how it may impact on ākonga's learning outcomes, and how this information is used.

Every teacher in education has a wealth of stories that have come from interactions with our professional environment, the students, our colleagues, our organisation, and our school communities. I am looking to, firstly, having a general understanding of the school Professional Development and Learning from the staff members using a survey and secondly, I am keen to hear the stories of those who hold positions involving designing, planning, and implementing PLD at your school as well as staff members involved in following up teachers in their journey at your school (e.g. coach, HoD). This collaboration will be used to support my research in this field.

What is the purpose of this research?

Professional Learning and Development (PLD) is often described as an important component in education that creates opportunities to impact and improve teaching and learning practices. This statement is reflected in educational frameworks and policies on the necessity to quality PLD that can improve teacher practices *effectively* and consequently create opportunities to impact on the students' learning outcomes. We should, thus, expect that schools have an effective system to evaluate and ensure that PLD is fit for purpose. However, the academic literature points out that PLD is often lacking accountability and system-ness in the design and implementation in educational settings. Moreover, there is a lack of sufficient evidence from a range of earlier studies reporting valid conclusions on the effectiveness of professional development and only a few scattered studies report some effects of PLD associated with students' outcomes improvements.

Consequently, it is important to consider the evaluation of PLD and its implementation and practice in classes if the desired impact of PLD is believed to be the improvement of outcomes in the students' learning.

I deem it important to look at the space following the Professional Learning and Development by asking What do we do with PLD once we are done with the learning phase? Thus, my research aims to investigate what system schools have in place to evaluate the effectiveness and the impact on teachers' professional learning and development.

The findings of this research may be used for academic publications and presentations. However, at no time will the school or participants be identified in the research findings either in published material or subsequent publications. If your school does participate, I would give your own school-based report generated from the data from your staff.

How was this school identified and why am I being invited to participate in this research?

I aspire to conduct this research in what could be considered a 'typical' New Zealand secondary school with the intention of my findings informing and being relevant to, the characteristic practice of New Zealand secondary schools. I have identified your school as a site of interest after reading your latest ERO Report, which noted the school's ongoing culture of learning and having Professional Learning and support for teachers at the forefront.

To be eligible to take part on the survey, participants must have a current teaching certificate with a workload of no less than 0.50 FTTE.

To participate to an interview, participants should be in charge or be involved with designing and implementing the PLD at the school and/or be responsible for overseeing teachers (e.g. line managers, middle leaders, coach). More details regarding this are provided below.

How do I agree to participate in this research?

If, after reading this information sheet, you are willing for staff in your school to participate in this study, please return the completed permission form duly signed by email to the following address: giordana@xtra.co.nz.

Your school participation in this research is voluntary (it is your choice) and whether you choose to participate will neither advantage nor disadvantage you. The survey is anonymous and guaranty that no information can be linked to individual or your school. Once a staff member completes the survey if they wish to withdraw their input, I will not be able to because I cannot match responses with an individual. Staff members who participate in an interview are able to withdraw from the study at any time. If they choose to withdraw from the study, then they will be offered the choice between having any data (transcripts, etc) to be removed or still being used for the research purposes. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

The collection of information (data) for my research involves two kind of data collection. Firstly, data is collected using a survey send to all staff members at your school that fit the criteria explained earlier. It will be the school responsibility to send the information (provided by me) to the staff members for them to complete the survey. This will allow the school to choose the best appropriate way to disseminate the information. The survey is anonymous, and participants are assured that no personal details (e.g. email address) are collected. At the end of the survey, participants who are in charge or be involved with designing and implementing the PLD at the

school and/or be responsible for overseeing teachers will be invited to express their intention to participate in an interview by sharing their preferred contact detailed to me via a separate link.

I aim to interview one or two participants per participating school using a 'semi-structured' interview format in order to try and better locate and understand how your school design, implement, evaluate the effectiveness and the impact on teachers' professional learning and development, the follow up after any PLD activities and how changes in teacher practice are tracked. The 'semi-structured' format means that although I will have planned a set of questions, participants will be able to share their experiences and thoughts or opinions freely during the interview. Interviews will be digitally recorded using a programme called Audacity and Google doc voice for verbatim and providing a backup. After the interview, I will transcribe each conversation and send it back to each participant via email for them to check and verify that there is nothing to correct or add to this data. The participant interviews, including the digital recording and transcription will be stored securely in a locked facility in my supervisor's office as well as being stored digitally on AUT Microsoft 365 space in a cloud file protected by a password. Once the research is concluded the data will be stored at AUT to be kept for six years, then destroyed. The data will be kept separately from the Consent forms at all times and the identity of both the school and participants will remain confidential within and from each other. Each recording will receive a code, the coding does not hold any private content and will preserve anonymity. In addition, pseudonyms will be used at all times, from data transcription through to document storage and in the analysis and findings of this study.

In order to do this, I will organise for each interview to take place and at a time, that mutually suits the participating interviewee and protects the confidentiality of both of us and this research study. Interview may be conducted online if this is the interviewee desire.

The data collected from the participants will be organised into themes and analysed. These findings will be compared with research from similar studies and conclusions drawn and recommendations made.

What are the discomforts and risks?

In the survey and in the interviews, the questions to be asked are of a generic nature and designed to give participants the opportunity to share aspects of their practice, their thoughts, opinions and experiences pertaining to their understanding of PLD at your school. There is a very slim chance that participants might feel reluctant to share information that could cause them discomfort or embarrassment, especially with the survey. Please be assured that the information they share with me, during their interview, is entirely at their own discretion and their confidentiality is respected and protected. They also have the right to withdraw at any time.

What are the benefits?

As advised above, this research contributes to the completion of a thesis towards the degree of Master of Educational Leadership. Your school will also benefit from receiving a report based on the data generated from the survey and the interviews.

How will our privacy be protected?

As stated above, confidentiality pertaining to the identity of the school and staff members as well as the data collected from them will be respected and protected at all times by the survey being anonymous, the interview files being disidentified, the retention of all documentation retained in a locked facility, and the reference to participants as such.

What are the costs of participating in this research?

I anticipate that these interviews will take approximately 40 minutes and no more than one hour each. In recognition of the time they are generously sharing with me, I have organised to give each participant a gift card to the value of $50. Staff who decide to complete the survey will need about 20-30 minutes.

What opportunity do I have to consider this invitation?

I would welcome confirmation that you consent to your school and staff participating in this research by returning the Permission Form within two weeks of the receipt of this Information sheet by email at giordana@xtra.co.nz

Will I receive feedback on the results of this research?

I will write a summary document of my findings at the conclusion of the research and send this to you and all participants via their preferred email address.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Howard Youngs, howard.youngs@aut.ac.nz 09 921 9999 ext 9633

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEC, ethics@aut.ac.nz, (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Permission Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Giordana Santosuosso, giordana@xtra.co.nz

Project Supervisor Contact Details:

Dr Howard Youngs, howard.youngs@aut.ac.nz 09 921 9999 ext 9633

Approved by the Auckland University of Technology Ethics Committee on 30.10.2023 AUTEC Reference number 23/283.

Note: The head of the organisation should retain a copy of this form.

5.6.9 Appendix F Permission to access school staff

Permission for researchers to access organisation school staff / students.

Project title: ***Professional Learning and Development after the active learning phase: Case studies of New Zealand schools.***

Project Supervisor: ***Dr Howard Youngs***

Researcher: ***Ms Giordana Santosuosso***

- ○ I have read and understood the information provided about this research project in the Information Sheet dated 4th of September.
- ○ I give permission for the researcher to undertake research within _____
- ○ I give permission for the researcher to access the staff / students / employees of _____

Principal's CEO's signature:……

Principal's CEO's name:……

Principal's CEO's Contact Details (if appropriate):

……

……

……

……

Date:

Approved by the Auckland University of Technology Ethics Committee on 30.10.2023 AUTEC Reference number 23/283.

Note: The head of the organisation should retain a copy of this form

5.6.10 Appendix G *Survey*

Professional Learning and Development - School Survey

Start of Block: Professional Learning and Development - School Survey

Professional Learning and Development - School Survey

End of Block: Professional Learning and Development - School Survey

Start of Block: Consent Form

Introduction Kia Ora, Thank you for taking part in this survey. The aim is to gain an insight on PLD at your school and on your own perspective. Please ensure you have read thoroughly the Participant Information Sheet sent to you by email before starting the survey. This will ensure you have all the information needed to proceed. Thank you for your time and careful consideration as you complete each section of the survey. Please, be reassured that this survey is anonymous and all information that is collected will be treated confidentially. You are guaranteed that neither you or your school will be identified in any report of the results of this research. By submitting this survey, your consent is assumed and if you would like to withdraw close your browser to exit the survey. Once submitted the data cannot be withdrawn.
Sincerely, Giordana

End of Block: Consent Form

Start of Block: Section A - General Questions

General Questions In this section you will answer general questions relating to your employment situation.

A.1 What is your employment status?

- ○ Full time (1)
- ○ Part time (no less than 0.50 FTTE) (2)

A.2 What year levels do you teach?

- ☐ Year 7 (1)
- ☐ Year 8 (2)
- ☐ Year 9 (3)
- ☐ Year 10 (4)
- ☐ Year 11 (5)
- ☐ Year 12 (6)
- ☐ Year 13 (7)

A.3 How many years have you been teaching? Please consider long carrier breaks, if any, when providing answer.

- ○ Less than 2 years (1)
- ○ 2 to 5 years (2)
- ○ 6 to 10 years (3)
- ○ 11 to 15 years (4)
- ○ More than 15 years (5)

A.5 Do you have a responsibility at the school other than being a classroom teachers. For example, Teacher in Charge of a curriculum area, Learning Area Leader.

- ○ Yes (1)
- ○ No (2)

A.6 In which learning area are you mainly affiliated to? Please select all that apply. Please specify if you have answered 'other'.

- ☐ English (1)
- ☐ Mathematics (2)
- ☐ Sciences (3)
- ☐ Social Sciences (4)
- ☐ PE & Health (5)
- ☐ Arts (6)
- ☐ Languages (7)
- ☐ Technology (8)
- ☐ International (9)
- ☐ Other, please specify (10) _____

End of Block: Section A - General Questions

Start of Block: Section B - The School Professional Learning and Development

B In this section you will give general information and your opinion about your involvement with PLD at **your school** for the last 12 months. The expression 'activities' means any formal or informal PLD you have taken at school or outside school.

B.1 Each year your school plans the professional learning programme. How much are you aware of what it is relevant to you?

	Very aware (1)	Aware (2)	Somewhat aware (3)	Not Aware (4)	A great deal (5)
Awareness (1)	○	○	○	○	○

B.2 Is attendance to PLD activities organised by your school...

- ○ Compulsory (1)
- ○ Not compulsory (2)
- ○ In part compulsory (3)
- ○ I don't know (4)

B.3 Are the PLD activities organised by the school.... *(Mark only one circle per row)*

	Yes (1)	No (2)	I am not sure (3)
...targeting the school goals (1)	○	○	○
...specifically targeting students' needs (2)	○	○	○
...specifically targeting teachers' needs (3)	○	○	○

B.4 Please indicate how much you agree or disagree with the following statements. **In general, the PLD activities offered by my school…** *(Mark only one circle per row)*

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
...meet my needs as an educator. (1)	○	○	○	○	○	○	○
...are relevant to my work. (2)	○	○	○	○	○	○	○
...positively impact my instructional practice. (3)	○	○	○	○	○	○	○
...include differentiation for participants of different skills/experience levels. (4)	○	○	○	○	○	○	○
...offer practical information or skills for me to implement in my own practice. (5)	○	○	○	○	○	○	○

...have opportunities to see and discuss the work of other teachers in our school following PLD activities. (6)	○	○	○	○	○	○	○

B.5 Please provide up to a maximum of five words that would describe your school's culture in relation to PLD.

_____

_____

_____

_____

_____

End of Block: Section B - The School Professional Learning and Development

Start of Block: Section C - Your Professional Learning and Development

C In this section you will give general information on PLD as well as your opinion on your involvement with PLD identified by you for the last 12 months. The expression 'activities' means any formal or informal PLD you have participated.

C.1 How many PLD activities did you attend during the last 12 months? *(Mark only one circle per row)*

	None (1)	1 or 2 (2)	3 or 4 (3)	5 or more (4)
At your school (1)	○	○	○	○
Outside your school (2)	○	○	○	○

C.2 What was the length of the PLD activities you have attended. Please specify the length of time if you have answered 'other'

- ☐ half a day (1)
- ☐ 1 day (2)
- ☐ 2-3 days (3)
- ☐ 1 week (4)
- ☐ 1 term (5)
- ☐ 1 semester (6)
- ☐ 1 year (7)
- ☐ Other (8) _____
- ☐ Not applicable (9)

C.3 Briefly describe the process you need to go through to a PLD request approved in your school.

_____

_____

_____

_____

_____

C.4 In the last 12 months, did you want to participate in more professional development than you did?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If In the last 12 months, did you want to participate in more professional development than you did? = No

C.4.1 Please explain why you were unable to participate in a PLD.

_____

_____

_____

_____

_____

C.5 Thinking of the PLD you have done the last 12 months, in which of the following category can you classify them. Please specify if you have answered 'other'.

- [ ] Pedagogy - general (e.g. behaviour management) (1)
- [ ] Pedagogy - specific to subject taught (2)
- [ ] Well-being (3)
- [ ] Leadership (4)
- [ ] Pastoral (5)
- [ ] Curriculum design (6)
- [ ] Building student engagement (7)
- [ ] ICT (8)
- [ ] New NCEA assessment standards (9)
- [ ] Curriculum refresh (10)
- [ ] Other (11) _____

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*

C.6 What is your preferred mode of delivery to receive PLD? Please select up to 5 options. Please specify if you have answered 'other'.

- [ ] Coaching (1)
- [ ] Classroom lesson modelling (2)
- [ ] Colleagues observing me and providing feedback (3)
- [ ] Conferences or workshops by external providers (4)
- [ ] Intensive summer training (5)
- [ ] Mentoring from other teachers (6)
- [ ] Observing colleagues (7)
- [ ] Videos "how-to" (8)
- [ ] Teacher collaboration time (e.g. Professional Learning Communities) (9)
- [ ] Postgraduate studies (10)
- [ ] Don’t know-No preference (11)
- [ ] Other (12) _____

C.7 What do you perceive to be the quality of the following PLD learning models?

	Very good (1)	Good (2)	Fairly good (3)	Neither good or poor (4)	Fairly poor (5)	Poor (6)	Very poor (7)
School-led PLD (1)	○	○	○	○	○	○	○
Instructional Coach (2)	○	○	○	○	○	○	○
Peer observation with feedback (3)	○	○	○	○	○	○	○
Online academic course (4)	○	○	○	○	○	○	○
Workshop by subject association (5)	○	○	○	○	○	○	○
Collaborative Planning (Community of Practice) (6)	○	○	○	○	○	○	○
Postgraduate studies (7)	○	○	○	○	○	○	○

C.8 During the last 12 months, did you participate in any of the following kinds of professional development activities, and what was the impact of these activities on your development as a

teacher? For each question below, only answer each line if you participated in this type of PLD - no response will be interpreted to mean you did not experience this.

	I don't know (1)	No impact (2)	Small impact (3)	Moderate impact (4)	Significant impact (5)
Courses/workshops (e.g. subject matter/pedagogy/other education-related topics) (1)	○	○	○	○	○
Education conferences or seminars (2)	○	○	○	○	○
Qualification programme (e.g. certificate, degree) (3)	○	○	○	○	○
Observation visits to other schools (4)	○	○	○	○	○
Participation in a network of teachers formed specifically for PLD of teachers (5)	○	○	○	○	○
Individual or collaborative research on topic of interest to you professionally (6)	○	○	○	○	○

Mentoring and/or coaching, peer observation, as part of formal school arrangement (7)	○	○	○	○	○
Peer observation, as part as own initiative (8)	○	○	○	○	○
Reading professional literature 9e.g. journals, evidence-based papers, thesis papers) (9)	○	○	○	○	○
Engaging in informal dialogue with your colleagues on how to improve your teaching (10)	○	○	○	○	○

C.9 Now, think of one your PLD activities in the last 12 months (at school or outside school), please give information about this PLD activity (e.g type, internal/external, length).

_____

_____

_____

_____

C.9.1 Based on your PLD activity choice in the previous question, rate how much you agree or disagree with the following statements in regard to this activity.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
The PLD activity content was relevant to my current teaching position (1)	○	○	○	○	○
I gained new knowledge or skills that are relevant to my teaching practice (2)	○	○	○	○	○
I would be able to integrate this PLD activity in my day-to-day practice (3)	○	○	○	○	○

The PLD activity I have attended has helped me to improve my own practice (4)	○	○	○	○	○
This PLD activity has helped me to understand better the needs of my students (5)	○	○	○	○	○
As a consequence of participating in this PLD activity, I have seen my students' outcomes improving (6)	○	○	○	○	○
This PLD activity did meet my learning goals (7)	○	○	○	○	○

I believe this PLD has enhanced my current knowledge and skills (8)	○	○	○	○	○

C.10 Referring to the same chosen PLD activity from the question you previously answered, rate how much you agree or disagree with the following statements in regard to this activity.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I believe the PLD activity was long enough for me to engage with the presented ideas (1)	○	○	○	○	○	○	○
I think there would be a benefit from spreading the PLD over more sessions/days (2)	○	○	○	○	○	○	○
I would have preferred more time (3)	○	○	○	○	○	○	○
I will need to do more training in this area in the future (4)	○	○	○	○	○	○	○

I would like this PLD to include follow-up sessions over time (5)	○	○	○	○	○	○	○

C.11 Referring to the same chosen PLD activity from the question you previously answered, rate how much you agree or disagree with the following statements in regard to this activity.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I have been given opportunities to practise new skills within the activity (1)	○	○	○	○	○	○	○
I was able to observe others modelling/example of good practice (around the PD topic) (2)	○	○	○	○	○	○	○
I was able to solve a problem I had or suggest a solution to a problem someone else had (3)	○	○	○	○	○	○	○
I was able to give feedback on the ideas of colleagues/participants (4)	○	○	○	○	○	○	○

I would be able to explain what I have learned to others who did not attend (5)	○	○	○	○	○	○	○
I believe I will be able to apply what I have learnt (6)	○	○	○	○	○	○	○

End of Block: Section C - Your Professional Learning and Development

Start of Block: Section D - After PLD 'The follow up'

D This section focuses on the time after you have participate on a PLD activity, how you apply your new learning to your class situation, how you are made accountable for it and how do you measure the effectiveness in regard to students' progress in relation to the PLD activity. When thinking of PLD activity in this context, please have in mind a PLD you felt satisfied with.

D.1 Does your school has a system in place following your participation to a PLD activity? (e.g. Provide a summary about how PLD could be used for your own practice or for the school).

- ○ Yes (1)
- ○ No (2)
- ○ I am unsure (3)

Display This Question:

If Does your school has a system in place following your participation to a PLD activity? (e.g. Prov... = Yes

D.1.1 Please briefly describe this system.

_____

_____

_____

_____

_____

D.2 Once you have finished your PLD activity, what kind of support do you receive (e.g. observation), if any? And did the support come from your school and/or from the PLD provider?

_____

_____

_____

_____

_____

D.3 If you have been give support following the PLD activity, how satisfied were you with the support given to you? Please skip this question if you haven't been given any support.

	Extremely dissatisfied (1)	Moderately dissatisfied (2)	Slightly dissatisfied (3)	Neither satisfied nor dissatisfied (4)	Slightly satisfied (5)	Moderately satisfied (6)	Extremely satisfied (7)
Follow up support (1)	○	○	○	○	○	○	○

D.3.1 If you have answered the previous question, please explain the reasons for your answer in the previous question.

_____

_____

_____

_____

_____

D.4 To understand to what extend the new knowledge and skills have changed your practice after participating to a PLD and how effective is this new implementation, has your school

asked you to participate in one or more of the following (please specify if you have answered 'other'):

- ☐ A questionnaire (1)
- ☐ Participating in a structure interview with your coach/mentor/online manager (2)
- ☐ Own reflections on PLD (oral and/or written) (3)
- ☐ Creating a portfolio (4)
- ☐ Being observed during teaching (5)
- ☐ Being recorded during teaching (6)
- ☐ Receiving feedback and feedforward (7)
- ☐ Other (8) _____

D.5 How does your school report learner outcome successes? And what is the report based on? (e.g. assessment results). Please answer as thoroughly as possible (5 to 6 lines).

_____

_____

_____

_____

_____

D.6 How do you measure change in students' outcomes linked to your PLD? Is there a procedure at school?

_____

_____

_____

_____

_____

End of Block: Section D - After PLD 'The follow up'

Start of Block: Section E - Your opinion count

E In this section, I offer a space where you can share with me your view on PLD activities outside or at your school. In particular, I seek to understand your position and I would be grateful if you could share your thoughts about how you see the impact of PLD activities on your practice and how this is contributing to better students outcomes. Especially, as a teacher, what do you do when you come back from a PLD activity in terms of change of practice and on improvement of students' outcomes that resulted from the PLD activity you have engaged with. Please do not name your school, an organisation or identify people by name. I would appreciate if you could be thorough as possible.

E.1 E.1 - In my view.....

_____

_____

_____

_____

_____

E.2 Professional Position at the school

- ○ I am involved in designing, planning and/or implementing PLD at my school (1)
- ○ I am involved in observation, appraisal, mentoring, coaching colleagues (2)
- ○ None of the above (3)

Skip To: End of Survey If Professional Position at the school = None of the above

E.2 You have indicated in the previous section your involvement with PLD and/or following up on colleagues. As such, I would like to invite you to participate to a semi-structured interview giving you the possibility to explain more in-depth your perception, thoughts and changes on the PLD implementation at your school and in general. If you wish to participate to an interview and providing me with more information PLD systems, please use the link below to provide me with your contact details. Once I have your details I will send you more information about the interviews and you will be able to confirm your participation. I thank you in advance for considering your participation. Link to form

End of Block: Section E - Your opinion count

Appendix H *Permission to access school staff*

Participant Information Sheet - Interview

Date Information Sheet Produced:

27th of October 2023

Project Title

Professional Learning and Development after the active learning phase: Case studies of New Zealand schools

An Invitation

Kia Ora,

Thank you for expressing an interest to make yourself available for the second part of my research project where you will be given the opportunity to participate in a semi-structured interview which I anticipate will not take longer than 40 minutes. Participation in this interview will help me to understand better how schools design and implement PLD and what system school have in place to measure the effectiveness of a PLD activity on your practice and how this affect students' outcomes. I am keen to hear the stories of those who hold positions involving designing, planning, and implementing PLD at your school as well as staff members involved in following up teachers in their journey at your school (e.g. coach, HoD).

Every teacher in education has a wealth of stories that have come from interactions with our professional environment, the students, our colleagues, our organisation, and our school communities. I am hoping to have a better insight on how PLD learning is used after teachers come back to their practice and if they can link PLD with students' outcomes. This collaboration will be used to support my research in this field.

What is the purpose of this research?

Professional Learning and Development (PLD) is often described as an important component in education that creates opportunities to impact and improve teaching and learning practices. This statement is reflected in educational frameworks and policies on the necessity to quality PLD that can improve teacher practices *effectively* and consequently create opportunities to impact on the students' learning outcomes. We should, thus, expect that schools have an effective system to evaluate and ensure that PLD is fit for purpose. However, the academic literature points out that PLD is often lacking accountability and system-ness in the design and implementation in educational settings. Moreover, there is a lack of sufficient evidence from a range of earlier studies reporting valid conclusions on the effectiveness of professional development and only a few scattered studies report some effects of PLD associated with students' outcomes improvements.

Consequently, it is important to consider the evaluation of PLD and its implementation and practice in classes if the desired impact of PLD is believed to be the improvement of outcomes in the students' learning.

I deem it important to look at the space following the Professional Learning and Development by asking: What do we do with PLD once we are done with the learning phase? Thus, my research aims to investigate what system schools have in place to evaluate the effectiveness and the impact on teachers' professional learning and development.

The findings of this research may be used for academic publications and presentations. However, at no time will the school or participants be identified in the research findings either in published material or subsequent publications.

How was this school identified and why am I being invited to participate in this research?

I aspire to conduct this research in what could be considered a 'typical' New Zealand secondary school with the intention of my findings informing and being relevant to, the characteristic practice of New Zealand secondary schools. I have identified your school as a site of interest after reading your latest ERO Report, which noted the school's ongoing culture of learning and having Professional Learning and support for teachers at the forefront.

By going to the link at the end of the survey, you have expressed your potential interest to participate to an interview. Your participation is possible as you have identified yourself as being in charge or being involved with designing and implementing PLD at the school and/or being responsible for overseeing teachers (e.g. line managers, middle leaders, coach).

How do I agree to participate in this research?

If, after reading this information sheet, you are still willing to participate in this study, you can write me an email to confirm your intention to participate at the following email address: giordana@xtra.co.nz.

Your participation in this research is voluntary (it is your choice) and whether you choose to participate will neither advantage nor disadvantage you. You can withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data (transcripts, etc) to be removed or still being used for the research purposes. However, once the findings have been produced, removal of your data may not be possible. A Consent Form will be provided to you to be signed.

What will happen in this research?

As stated earlier, the interview uses a 'semi-structured' interview format in order to try and better locate and understand how your school design, implement, evaluate the effectiveness and the impact on teachers' professional learning and development, the follow up after any PLD activities and how changes in teacher practice are tracked. The semi-structured format means that although I will have planned a set of questions, you will be able to share your experiences and thoughts or opinions freely during the interview. Interviews will be digitally recorded using a programme called Audacity and Google doc voice for verbatim which will allow a backup. After the interview, I will transcribe each conversation and send it back to you by email via for you to check and verify that there is nothing to correct or add to this data. Your interview, including the digital recording and transcription will be stored securely in a locked facility in my supervisor office as well as being stored digitally on AUT Microsoft 365 space in a cloud file protected by a password. Once the research is concluded the data will be stored at AUT to be kept for six years, then destroyed. The data will be kept separately from the consent forms at all times and the identity of both the school

and participants will remain confidential within and from each other. Each recording will receive a code, the coding does not hold any private content and will preserve confidentiality. In addition, pseudonyms will be used at all times, from data transcription through to document storage and in the analysis and findings of this study.

In order to do this, I will organise for each interview to take place and at a time, that mutually suits us and protects the confidentiality of both of us and this research study. The interview may be conducted at your school, at the Auckland University of Technology or online if this is your preference.

The data collected from your interview will be organised into themes and analysed. These findings will be compared with research from similar studies and conclusions drawn and recommendations made.

What are the discomforts and risks?

The interviews questions are of a generic nature and designed to give you the opportunity to share aspects of your practice, your thoughts, opinions, and experiences pertaining to your understanding of PLD at your school. There is a very slim chance that you might feel reluctant to share information that could cause you discomfort or embarrassment. Please be assured that the information you share with me, during their interview, is entirely at your own discretion and your confidentiality is respected and protected. You also have the right to withdraw at any time, however once the findings have been produced, removal of your data may not be possible.

What are the benefits?

As advised above, this research contributes to the completion of a thesis towards the degree of Master of Educational Leadership. Your school will also benefit from receiving a report based on the data generated from the survey and the interviews.

How will our privacy be protected?

As mentioned earlier, confidentiality pertaining to the identity of you and your school as well as the data collected from you will be respected and protected at all times by the interview files being disidentified, the retention of all documentation retained in a locked facility, and the reference to participants as such.

What are the costs of participating in this research?

I anticipate that this interview will take approximately 40 minutes. In recognition of the time you are generously sharing with me, I have organised to give a gift card to the value of $50.

What opportunity do I have to consider this invitation?

I would welcome confirmation of our willingness to participate within two weeks of the receipt of this Information sheet by email at giordana@xtra.co.nz.

Will I receive feedback on the results of this research?

I will write a summary document of my findings at the conclusion of the research and send this to you and your school by email.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Howard Youngs, howard.youngs@aut.ac.nz 09 921 9999 ext 9633

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEC, *ethics@aut.ac.nz* , (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Giordana Santosuosso, giordana@xtra.co.nz

Project Supervisor Contact Details:

Dr Howard Youngs, howard.youngs@aut.ac.nz 09 921 9999 ext 9633

Approved by the Auckland University of Technology Ethics Committee on 30.10.2023 AUTEC Reference number 23/283.

5.6.11 Appendix I Consent Form Interview

Consent Form

Project title: **Professional Learning and Development after the active learning phase: Case studies of New Zealand schools**

Project Supervisor: ***Dr Howard Youngs***

Researcher: ***Ms Giordana Santosuosso***

- ○ I have read and understood the information provided about this research project in the Information Sheet dated 27th of October 2023
- ○ I have had an opportunity to ask questions and to have them answered.
- ○ I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.
- ○ I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- ○ I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- ○ I agree to take part in this research.

Participant's signature:.....

Participant's name:.....

Participant's Contact Details (if appropriate):

.....

.....

.....

.....

Date:

Approved by the Auckland University of Technology Ethics Committee on 30.10.2023 AUTEC Reference number 23/283

Note: The Participant should retain a copy of this form

5.6.12 Appendix J Interview Questions

Interview Questions

Interview Questions

The following questions will be adapted during the interview depending on the responsibilities the interviewee has in relation to Professional Learning and Development and the answers provided. Sub-questions are designed to provide either a prompt question to develop further the information or to branch to another related question (e.g. yes/no questions).

Warm up question

- State the responsibilities you have in regard to Professional Learning and Development?

Questions

Questions 3, 5, are questions that will target the Middle Leaders in charge of following up/supporting staff members.

Questions 2, 4, 6, are questions that will target staff member in charge of designing PLD at the school

Questions 1 and 7 are for both group.

1. When deciding on PLD activities, how do you consider what works for whom and under what circumstances?

2. How does your school local context influence the design of PLD?

3. Is there a follow up in place after staff members have finished their PLD?

a. If yes: Can you describe it?
b. If not: In your view, what are the barriers impeding the implementation of such a system?

4. Can you describe what system your school has into place after staff members have finished their PLD to follow up on the implementation of PLD in their practice and if it has an impact on the students' outcomes.

5. Please, describe an initiative that was successful in improving students outcomes?
    a. From your perspective, what do you think made it successful?
    b. How do you know the students' positive outcomes are associated with a PLD? In other words, what evidence is collected that suggests a substantial difference to optimise outcomes for diverse students?

6. What do you perceive as any prevailing discourses in your school that may influence effectiveness of PLD?

7. In your view, what are the challenges you face in establishing a link between new learning, teachers' practice and students' outcomes?

<u>Last question</u>

- If you could change something on the PLD evaluation process in your school what would be the change or changes you would make?