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TEACHERS' AFFECTIVE DOMAIN AND TRANSFORMATION IN TEAM-BASED LEARNING

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ABSTRACT

Leigh Ann Witney

TEACHERS' AFFECTIVE DOMAIN AND TRANSFORMATION IN TEAM-BASED LEARNING

Teachers engaged in innovative professional learning and applied action research to investigate and understand pedagogical or school-focussed elements that they considered were problematic for their teaching practice or student learning. Along with the new skills and knowledge they acquired to inform their practice, the professional learning experience was a catalyst for multidimensional perspective transformation and the transformative learning some teachers realised. This qualitative, interpretive research problematised the phenomenon of personal transformation occurring for some teachers and explored a central research question: What are teachers' conceptual understandings and affect concerning any transformative learning following a team-based learning experience? Teachers' stories reveal the affective associations teachers made and are described across the full spectrum of human emotion from fear to joy in their attitudes, values and beliefs, and motivations and transformative learning arising from their professional learning experience. The teachers' transformative learning experiences unfolded in unique ways and revealed the relationships between action research for professional learning, affective dispositions, and transformative learning. Teachers described a sense of self and shared an overwhelming sense of empowerment from their personal growth and professional achievement attributed to their action research. The evolving theories of transformative learning inform my understanding and interpretation of teachers' transformative learning and its relation to affect. This research contributes evidence to understand transformative learning through the lens of teachers' professional learning in teams-based action research. It reveals teachers' transformative professional learning can occur spontaneously in socially, supported situations created for team-based learning. The research has implications for teachers' professional learning in the future.

Key words: affect, perspective transformation, transformative learning, teacher professional learning, action research.

DECLARATION

This dissertation contains no material that has been extracted in whole or in part from a dissertation that I have submitted towards the award of any other degree or diploma in any other tertiary institution.

No other person's work has been used without due acknowledgement in the main text of the dissertation.

All research procedures reported in the dissertation received the approval of the Australian Catholic University Human Research Ethics Committee, in Register Number 2016-290E, with an extension of the Ethics Approval granted to 30 June 2019.

STATEMENT OF AUTHORSHIP AND SOURCES

No collaboration with another person or persons or any other assistance with statistical analysis or professional editing was received in the pursuit of my research and the preparation of the dissertation apart from the academic support received from my supervisors and the members of the academic panel who are duly recognised in the Acknowledgements in this dissertation.

The advice provided by my supervisors and the members of the academic panel included suggestions to improve the structure of content, language usage and completeness of my dissertation. It has been my full responsibility to consider their advice and to act upon it. The changes I applied reflect their shared advice to improve the overall readability of the dissertation without changing the originality and creativity of the whole.

Leigh Ann Witney.

April 2021.

DEDICATION

This dissertation is dedicated to my mother,

Margery June Medlyn

(October 1937 – May 2003)

in loving memory.

In March 2001, at the University of New England, in New South Wales, Australia, my mother beheld the academic procession of university dignitaries in the graduation ceremony where I was conferred with my second tertiary degree.

Afterwards, she asked if I thought I would wear one of those funny hats one day.

My memory of her and her wonderings on that day about doctoral caps, and academia and my enthusiasm for it, have encouraged me to strive towards achieving the goal she set so unpretentiously for me in that moment, many years ago.

Her strength of mind and character, devotion to her family, and creativity are forever remembered. Her unrelenting braveness in her insurmountable battle with ovarian cancer is indelible to those who loved her and miss her every day.

My sadness at her passing, ineffaceable.

Unforgettable.

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Professor Brendan Bartlett

Chair in Education, Australian Catholic University (Retired 2018)

Principal Supervisor (2013 – 2018)

Mentor.

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You challenged my thinking throughout my learning journey in research.

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I was privileged to learn from you and never more fortunate than when our paths crossed in the beginning.

With smiles,

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Panel Chair:

Professor Tania Aspland. Executive Dean, Faculty of Education and Arts, Australian Catholic University, Sydney, Australia.

Panel Members:

Professor Brendan Bartlett. Chair in Education (Retired 2018). Principal supervisor. Australian Catholic University, Brisbane, Australia.

Associate Professor Clarence Ng, International Researcher, Institute for Learning Sciences and Teacher Education, Australian Catholic University, Brisbane, Australia. Co-supervisor and Principal supervisor successor (2019-2020). Dr Amanda Gutierrez, as the co-supervisor successor.

Associate Professor Janeen Lamb, Coordinator, Higher Degree Research, National School of Education, Australian Catholic University, Brisbane.

Dr Melissa Weir, Lecturer, National School of Education, Australian Catholic University, Brisbane.

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Senior Lecturer (Retired), Griffith University, Brisbane, Australia, Consultant, my esteemed colleague and dear friend,

We worked together, 2010-2014, with teachers to support their professional learning and your unwavering passion for action research, combined with your knowledge, insight, and skills as a teacher, action researcher and mentor were always an inspiration to me. Your support for

teachers' professional learning was uniquely connected and heartfelt, helping teachers to grow as education practitioners through their action research.

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Most importantly, thank you for your expert contribution to the conditions for teachers' transformative professional learning.

"The work we do together, with others".

(Margaret Fletcher, 2014)

To Independent Schools Queensland,

My research would not have been possible without the original opportunity created by Independent Schools Queensland (ISQ) with Australian Government funding and my work with member schools for teachers' professional learning.

I gratefully acknowledge the permission of ISQ, the peak body for Independent Schools in Queensland, Australia, for allowing me to explore my research interests with their member schools and the teachers from member schools.

I am indebted to the teachers from Independent Schools in Queensland who found time in their busy professional lives to contribute to my research through their survey responses and in interviews to share reflections of their professional learning experiences and transformative learning.

The individual stories from teachers, revealing their transformative learning journeys, were invaluable and at the core of my research.

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Chapter 1 INTRODUCTION

My work is in Teaching and Learning with Independent Schools Queensland (ISQ), the peak body for independent member schools in Queensland, Australia. Over five years, 2010-2014, teachers participated in a government-funded, ISQ professional learning initiative to complete year-long action research projects. Teacher teams were guided and supported in understanding and applying action research principles by professional learning facilitators. Teachers carried out their action research cycles to progress their identified, strategic priority to improve their teaching practice or the learning environment in their respective schools and ultimately, to improve student learning outcomes.

Around seven years ago, a teacher shared her reflections with me about her involvement in the professional learning and the completion of an action research project. She spoke about how the experience had transformed her. Since completing her action research, her career path had shifted in an unexpected direction due, she said, to her sense of herself as a professional educator becoming much larger and her perspective broader following her participation in the initiative. For her, the world no longer seemed such a large place and she was confident she could meet new professional challenges in her career as an educator. She described how she was more proactive in trying to bring about change in her fresh professional context despite the many barriers she encountered as an innovative teacher, working abroad in an unfamiliar country, teaching an unfamiliar curriculum to unfamiliar students.

The transformation the young teacher appeared to have experienced involved a changed perspective of herself in the world, and her attribution for this was her being involved in the professional learning project some years earlier and for which I was one of the professional learning facilitators. She considered the action research and her professional learning in the project had empowered her, although she was unclear about what underlay the bigger and personal transformation that she now valued so highly. While that was a revelation to me, I was unclear also, as this teacher's account was just one of several similar anecdotal reflections that others from the same cohort reported. The common theme in teachers' personal accounts was of some sense of personally transformative learning where there was not only a transfer of knowledge and skills from what they had learned in their action research, but also a more generalised personal effect of change in perspective for which the

best explanation I could find was allusion to transformation that occurs as dynamic, creative action or co-ordination of activity through which new perspectives replace old ones (King, 2005).

I was drawn to problematise and explore what had happened.

1.1 Preamble.

The context for my research study is teachers' professional learning and their experience of action research. Knowledge and understanding in this context of adult learning and any phenomenon of transformative learning occurring for teachers will have implications for the delivery of professional learning for teachers in the future. To understand the phenomenon of transformative learning, an exploration of the Theory of Transformative Learning by Jack Mezirow (1978) is essential as this is the widely accepted, influential work drawing together the "significant concepts of disorienting dilemma, meaning schemes, meaning perspectives, perspective transformation, frame of reference, levels of learning processes, habits of mind, and critical self-reflection" (Kitchenham, 2008, pp. 105-106). These concepts are present in the theory hypothesising adult learning and proposing to explain how adults decipher meaning and change from experience. According to Mezirow (1991a), a philosophy derived from an understanding of transformative learning can form a "prescription for the educational interventions that are appropriate to help adults learn" (p. 198) and conceivably a deeper understanding of the phenomenon could inform policy and practice in the field of adult learning.

There exists a heavy emphasis on the cognitive domain in the transformative learning literature and an emerging view that a more holistic approach to transformative learning could support an integrated theory of transformative learning (Papastamatis & Panitsides, 2014). The gap I identified in the literature was an uncertainty about the role of the affective domain in transformation and followed from suggestion (Wideman, 2011) that work is required if we are to better understand its role in teacher professional learning. My need to understand more about teachers' perspective change following their professional learning experience led me to consider my research as an opportunity to seek transformed teachers' explanations of their experience to understand whether they see their affect had any influence on transformative learning.

Mezirow (1978) maintained that perspective transformation is a forerunner to transformative learning. In this research, I gather and explore teachers' accounts of their experiences in their professional learning, looking initially for evidence of perspective change in connection with their professional learning. Teachers who describe changes in how they

view themselves as teachers and whose disclosure of perspective transformation suggests there is potential for transformative learning, become the focus of one or more illustrative example cases to explore this and the role, if any, of the affective domain in transformation.

1.2 Teachers as Action Researchers.

Teachers participated in team-based action research, typically with three to five members in a team, to make evidence-based changes in an aspect of their shared practice. Through dynamic, meaningful and cyclic inquiry, teachers as researchers examined, and analysed their practice, or a school-based problem and investigated ways to improve or solve it. Each team's research objectives centred on framing their identified problem, or practice concerns as a research question, before implementing a series of strategic actions to understand more about their focus area and the possible ways to improve or change their pedagogical practice. The professional learning initiative was focused towards supporting teachers to use action research to find evidence-based approaches to be more effective teacher practitioners to improve student learning outcomes. Teacher reflection on their teaching and research practice was actively encouraged as part of their action research involvement. Their research activities included attendance at an initial professional learning workshop where they learned and reflected on the principles of action research and focused on their research problem, and a mid-year workshop where teams reported to other teams on their research progress. Teachers were expected to review the literature over time to build their understanding of other research in their focus area. Teachers worked together to formulate action plans and implemented strategic actions that were informed by their knowledge gained from the literature. Action plans included activities to collect data about the influence of their chosen strategies to understand how their actions influenced their practice or problems. Teams completed multiple action research cycles and were supported by a research mentor at regular intervals. Teams analysed the data collected in each action cycle and engaged in critical reflection to review and understand the extent to which their strategies were successful. After teams reflected on their data and considered the outcome of their strategic action, further strategies to improve upon their practice or problem were enacted through successive action research cycles. Teams applied systematic, spiralling cycles of action planning, strategic action, data collection and reflection to make and examine their progressive gains in their action research for a minimum of 12 months. Teams typically carried out three action cycles in their inquiry during this time and were encouraged to think flexibly and analytically about their practices or problems. Teachers' team-based, deep and critical reflection was focused on their research strategies, and the outcomes of their strategic actions, to inform their planning

moving forward into their next action cycle. Individual teachers were encouraged to deeply and critically reflect on their professional learning and journey in action research whenever they felt the need to do so. The critical reflection by teams was sometimes prompted by the professional learning facilitator during the school visits by the facilitator in each school term. Opportunities for the teams to share their reflections with other teachers occurred at the professional learning events staged at the mid-year and end of year for all teachers involved in the professional learning in the ISQ Teachers as Researchers (TAR) program. Teachers' involvement in the program culminated with each team formally presenting their research findings to other teams and their school leaders at the end of year, professional sharing day.

There is a raft of benefits described in the literature for teachers' practice and school improvement when teachers use action research to inform their professional knowledge and practice. Hine and Lavery (2014a) found when teachers carry out action research and collect their own data and use them to make decisions, students and their school benefit. Teachers' research-based knowledge can be converted into practice directly in their classrooms through the connection teachers make between theory and practice. The benefits for teachers from engaging in action research include enhanced knowledge and skills for improved teaching practice (Desimone, Porter, Garet, Yoon, & Birman, 2002), opportunities for teachers to reflect on their practice (Hodgson, 2013), increased self-awareness and self-improvement (Judah & Richardson, 2006), and greater empowerment (Hine, 2013). Other benefits for teachers from engaging in action research projects include student success in learning, improved student achievement and more effective teaching and administration of schools (Elliot, 1991; Stenhouse, 1975). It was anticipated, teachers would develop their professional self-efficacy and increase their research-based knowledge through their action research, but the full raft of benefits were viewed as aspirational professional learning outcomes for teachers in the program. The emphasis always at the centre of my professional work with teachers is on improving teaching and learning. More recently, the possibility of gaining a deeper understanding of how the benefits could be better achieved lay connected to the reports of perspective change, from those involved in action research projects, and my reading about transformation.

1.3 Perspective and the phenomenon of perspective change.

My understanding and view of perspective is constructivist and informed by the transformation theory in adult learning (Mezirow, 1991a). Based on the theory, meaning exists in the individual, rather than in an external source, and it is validated through interactions and communications between people who continue to modify and attribute

personal meaning through an interpretive process. "The nature of a thing or event consists of the meaning that that (sic) individual gives to it" (Mezirow, 1991a, p. xiv). Mezirow believed our interpretation of the world does not negate the existence of it but that our view of the world is determined by our past experiences. Mezirow used the phrase, *meaning perspectives*, which I also understand simply as *perspective.* Meaning perspectives are our habits of expectation which behave as guides to our perceptual and cognitive viewpoints. Meaning perspectives and resulting viewpoints underpin the way adults feel, think, perceive and act in response to life experiences (Mezirow, 1991a).

Perspective change was reported by some teachers who engaged in the ISQ TAR program for their professional learning. A small number of teachers identified moving ahead in their profession pathways in directions they had not considered prior to being a teacher researcher in the program. Since there were unexpected outcomes experienced by a few teachers following their professional learning, including what appeared to be a changed view of themselves in the world, I wondered if a changed perspective occurred for more teachers and in what ways. Teachers reporting similar experiences would suggest a phenomenon exists which needs to be explored to uncover any underlying process supporting the phenomenon. I needed to explore teachers' conceptual understandings and affect in connection with any perspective change and any transformative learning following their team-based learning experience because professional learning for teachers using action research appears to influence changes in perspective, but the mechanism(s) is not understood.

I had not foreseen that teachers might experience some transformative change through their involvement in the professional learning program. So, given everything that the literature suggests action research can promote, I wondered whether the benefits for teachers and their students with which it is associated might be outcomes of a transformed sense of self that has an affective connection, possibly with perspective-change linked to teachers' experiences in team-based action research. I was excited by this possibility and by King's (2009) theorisation that, "it is as if transformative learning experiences provide the learners with an entirely different set of lenses to view themselves and their world" (King, 2009, p.xx).

1.4 Reconnaissance.

A search of the literature on the topic of teachers' learning through collaborative, action research uncovered an article (Franks, Jarvis and Wideman, 2011) from Nipissing University in Canada. I made many connections between the Canadian and Australian contexts in teachers' professional learning. Franks et al. (2011) used case study research to explore how teachers work together for their professional learning. They found two skill sets

were related and necessary for teachers to work in a collaborative learning environment in inquiry-based projects. They referred to an intrapersonal skill set involving thinking skills and an interpersonal skill set involving knowledge, skills and values. They concluded both sets are important, but that there had been insufficient research on understanding the interpersonal skill set.

Wideman (2011), in an associated study, identified more attention is needed to understand how the affective domain impacts team-based professional learning and believed teachers need to feel supported when they are involved in transformational learning. He highlighted, a teacher's theory of practice comprises their basic and fundamental personal beliefs about what it means to be a good teacher and "changing one's teaching methods is a complex matter involving the ways we think, feel and the way we act" (Wideman, 2011, p. 57). The need for *feeling supported* in transformational learning aligns with other researchers who have recognised the significant part emotions play in transformative learning (Stevens-Long, Schapiro, & McClintock, 2012). I sensed there may be a connection between the need for teachers to feel supported and the generalised personal effect of change in perspective that teachers spoke about because the support for teachers was a central focus throughout the professional learning program. The program was structured for teachers to work together so they could support each other in their research objectives. Teams could reach out for support to other teacher teams in the program if they had research objectives in common or were focused on similar interests and networking was encouraged but not compulsory. ISQ facilitators proactively made regular contact with the teams, so teachers would feel supported throughout their research and professional learning journey. Cranton & Taylor (2013) however, suggest the research foregrounding the emotive side of transformative learning has ignored the role of empathy which they believe is an important emotion in transformative learning that adult learners need to engage with.

Further investigation of the literature about teachers' professional learning involving collaborative action research unearthed countless references to transformative learning. For research investigating transformative learning, Mezirow's contribution to the transformative dimensions of adult learning is seminal. He explained transformative learning as,

> an enhanced level of awareness of the context of one's beliefs and feelings, a critique of their assumptions and particularly premises, an assessment of alternative perspectives, a decision to negate an old perspective in favour of a new one or a synthesis of old and new, an ability to take action based upon a new

> perspective and a desire to fit the new perspective into the broader context of one's life (Mezirow, 1991a, p. 161).

1.5 Focus of the research.

Some teachers informally recounted a personal change in perspective, alluding to their personally transformative learning, which was not foreseen as a learning outcome for teachers from their involvement in action research in the professional learning program. The personal and unexpected professional learning outcomes for some teachers following their team-based learning experience aroused my interest and are foundational to my research. The focus for my research is on understanding any transformative learning occurring for teachers in connection with their professional learning and their conceptual understandings and affect, in relation to it. This will be identified through perspective changes and any connections the teachers make to their affect. Their conceptual understandings will assist me to interpret their stories and enable me to reveal the mechanism behind the teachers' changed perspective and any transformative learning occurring for them. Although it is widely accepted that perspective transformation is a forerunner to transformative learning (Mezirow, 1978) and despite transformative learning being heavily researched in recent years, there is still much scope to expand knowledge in this area and opportunity to delve into new aspects that King (2009) believes is "by no means exhausted" (King, 2009, p. xxi). There is both scope and opportunity for my research. There is scope to understand the role of the affective domain in transformation, and its influence on team-based professional learning. There is opportunity to delve into any transformation occurring for teachers by revealing the perspectives of teachers and their affect to expand the knowledge around transformative learning.

1.6 Terminology.

Perspectives, perspective change, meaning schemes, meaning perspectives, integrated perspective, perspective transformation, transformative learning, and transformation are related terms used in the Theory of Transformative Learning (Mezirow, 1978). Perspectives refer to an individual's frame of reference or view of the world. A perspective can be called a meaning perspective or be referred to as a sense of self. A perspective change is a change in a frame of reference. Perspective change and perspective transformation are both prerequisites for transformative learning and transformation in an adult learners' sense of self. Another term for perspective transformation is significant learning (King, 2009). Transformative learning can be understood as an overarching transformation process, or as an outcome or a product of a process after a perspective transformation has occurred. Challenges to a learner's sense of self, begin within a context and result from a new experience that leads a learner to

reassess their assumptions and expectations against their existing frame of reference. A new context or experience leads the learner to critically reflect on their perspectives and can trigger development of a new or changed frame of reference or meaning perspective. A transformative learning outcome is distinguished from a perspective change because it occurs after the learner has become critically aware of their sense of self and their perspectives have become integrated into their beliefs. An integrated perspective can result when the learner forms a changed perspective of themselves within their broader understanding of life contexts. The final integration of a changed perspective may involve the learner in major life changes and can be referred to as the outcome of transformative learning, the transformative learning or simply, as transformation.

1.7 Purpose.

The purpose of my research is to understand any transformative learning occurring for teachers and the role of affect in any transformative learning because there were unexpected outcomes experienced by some teachers following their professional learning that allude to transformation. These have not been explained and there is uncertainty about the role of the affective domain in transformation.

I take direction from the literature (Taylor & Cranton, 2013), to ground my research in primary sources, to understand the nature of any teachers' unfolding experiences of transformative learning. Teachers' perspectives of their professional learning experience, in relation to their involvement in team-based action research, are explored through a detailed, interpretive process. Teachers' stories are analysed to gain insight into how they think, feel and act because emotions are understood to play a role in transformative learning. I describe any teacher's experience of perspective changes in connection with their involvement in action research to build understanding of their perspectives over time. I explore teachers' accounts to build understanding of the role of affect and how it may be related in any transformative learning occurring for teachers.

My research goal is ultimately to contribute to the knowledge of transformative learning through an understanding of the role of affect in any transformation arising for teachers from their experience in the professional learning.

1.8 Aims.

I aim to explore the attitudes, values, beliefs and motivations of a group of teachers who completed action research for their professional learning to understand the perspectives of teachers in connection with it and what any change in perspective means for teachers in their professional practice. I also aim to understand any relationships existing between

teachers' professional learning, their action research involvement, teachers' affective dispositions and any transformative learning occurring for teachers. "Together these strands of experience may interweave to be something much greater than their individual parts" (King, 2005, p. 131). Any perspective change, deeply embedded personal change or transformative learning occurring for teachers, understood from teachers' viewpoints, could reveal new ways, new directions or new experiences to foster teachers' professional and transformative learning. My research can lead to advancements in professional learning approaches for teachers to maximise teacher professional growth and achieve my research goal to contribute to the knowledge evolving in the field of transformative learning.

1.9 Justifications.

My research explores unexpected changes for some teachers in their sense of self in connection with their professional learning and action research. They appear to have "new knowledge, interfacing with the individual on a personal basis" (King, 2009, p. 6), suggesting a phenomenon where they are realising "new capabilities, new interests and new dreams as though the world opens before them again for the first time" (King, 2009, p. 6). The justification for my research rests in its importance, relevance and implications for professional learning for teachers and the field of transformative learning.

1.9.1 Importance.

Not enough is understood yet about the affective domain in adult learning or how it relates to team-based professional learning (Wideman, 2011). My study makes an important contribution to understand teachers' affect in the context of their adult learning and the knowledge gained could advance the theorisation of transformative learning.

To explain further, change in adult learners rests in an individual's own ability and desire to change in the cognitive and affective dimensions of capacity (King, 2005) but more attention to the affective domain is needed (Franks, Jarvis, & Wideman, 2011) to understand these capabilities in connection with professional learning outcomes for teachers. Understanding more about the nature, influence and relation of affect in any perspective change for teachers, and more about any underlying transformative process from using action research as the method for teachers' professional learning, will build the knowledge of transformative adult learning. Any relationships found between adult learning, perspective transformation and action research will be important to the knowledge base in the field of transformative learning and the knowledge gained could advance the theorisation of transformative learning.

1.9.2 Relevance.

My research presents an original context and unique opportunity that has not been investigated previously. There is a need to understand transformative learning more completely because "the most powerful learning - the learning that most of us really want to see learners achieve as a result of their experiences with classes/curricula - involves significant qualitative changes in the learner themselves" (King, 2009. p. 7). My research has relevance to the field of transformative learning in the wider context of the knowledge of the phenomenon itself.

1.9.3 Implications.

It is known, teachers can be powerful change agents in educational settings and teachers' research is a potent resource for those seeking to change their educational practices (Kemmis et al., 2014). An understanding of any teachers' experiences of transformative learning in connection with their professional learning, and how it can be achieved, could have far-reaching implications. More transformative, professional learning for teachers that effectively improves teachers' ability to be change agents may lead to changes in educational practices and have implications for teacher education in the future.

Action research is widely accepted for its connection to practice-changing outcomes. It is believed the self-reflective process essential in action research supports teachers to rethink their practice amidst a process of self-transformation (Kemmis, McTaggart, & Nixon, 2014). My research study will add to the knowledge and deeper understanding of teachers' experience of change as an outcome of their professional learning. It may explain the mechanisms that promote transformative learning and suggest ways to design professional learning curriculum to 'power-up' teachers' professional learning or to facilitate transformation (Snyder, 2008). Such knowledge could lead to enhanced adult professional learning experiences in the future. My research could ultimately have implications for the theorisation of transformative learning and adult learning.

1.9.4 Responsiveness.

The published research by King (2009) has been an inspiration and guide in the formulation of my research study. King wrote in her unique volume dedicated to research about transformative learning how she hoped other educators and researchers would "capture the vision and dream of human transformation" (p. xxvii). King (2009) asserts:

> The possibilities (in visions and dreams of human transformation) are only limited by the ability and desire for people to change. The opportunity to help and guide another

> person as they grow in new possibilities, as they realize empowerment and take hold of their future for themselves, can be compared to nothing else. (p. xxvii)

My research responds to her invitation to join with her, and others, as a transformative learning researcher, to build "upon each others' work to take all of and the field of adult learning to new places of understanding transformative learning" (p. xxvii). The unique context of teachers' professional learning is an original opportunity for my research to build a wider view and advance the research on transformative learning, as King (2009) suggests is possible by the "power of sequential, collaborative educational research" (p. xxvii). This is the overall justification for my research.

1.10 Challenges and opportunity.

The challenge in my research will be to explore teachers' attitudes, beliefs and values to understand the influence of these in any transformational change occurring for teachers. Adults hold beliefs based on experiences and place value on certain beliefs that can be expressed as attitudes. Beliefs are widely understood to have an impact on behaviour and practice, and attitudes reflect adults' responses to their beliefs. Teachers' self-understandings, attitudes and beliefs along with their educational values may have influenced their practical decisions during their action research but were not noted by the facilitators during the professional learning activity for the teachers. My unique context for this research presents an opportunity to find more teachers for whom transformative learning may be a reality. I will need to understand their experience of the professional learning and action research from the way they describe it and relate it to their affect. My research presents opportunities to understand the role of affect in any transformative learning occurring for the teachers and interpret the implications for future professional learning for teachers.

1.11 Overview of the research.

My research is informed by the interpretivist paradigm and it explores teachers' conceptual understandings and affect concerning any transformative learning following their team-based learning experience. I seek to understand any transformative learning occurring for teachers, in connection with their professional learning experience where they applied action research to improve their pedagogy or school-based problems. Through my gathering of teachers' responses to survey and interviews to understand their perspective and any changes described in their perspective, I develop understandings of any transformative learning occurring for teachers. My findings emerge through my interpretation of their perspectives. This is important research as it will "take the field of adult learning to new places of understanding" (King, 2009, p.xxvii).

My research draws together information from teachers to understand any changed perspectives they have in relation to their professional learning experience. I am interested in their perspectives according to five themes, namely their adult learning, their affective domain, action research, perspective transformation and any transformative learning. To better understand transformative learning and any relation to teachers' affect and their action research experience in professional learning, it is important to consider teachers' accounts of their experiences along with their critical reflections. I interpret where the themes may relate to each other to gain insight into any phenomenon of transformative learning occurring for teachers and consider their awareness and description that might further its conceptualisation.

My doctoral research does not apply an action research methodology. It is an interpretative study within the domain of qualitative research involving a group of teachers, who completed year-long action research projects for their professional learning during the years, 2010 to 2014. While action research was the medium for the teachers' professional learning at the outset, and action research projects were central to the teachers' professional learning activities, it is not the methodology used in this study nor is it central in this research. The action research utilised by the teachers is a contextual feature of their professional development and it is the context for teachers' professional learning around which my research is based. The action research performed by teachers provides the background context to teachers' learning and to my research.

I gather a range of qualitative data about teachers' affect and conceptual understandings from their perceptions, insights and overall consciousness of affective mechanisms in connection with their professional learning experience and any transformative learning outcomes, if these occurred. My research methodology, does not reflect the critical paradigm, as it is not designed from the outset to create change from any theoretical development, although there is some literature which suggests there is a need for this type of research (Taylor & Cranton, 2013). The research methodology is explained in Chapter 3.

1.12 The research questions.

The central research question is: What are teachers' conceptual understandings and affect concerning any transformative learning following a team-based learning experience?

To answer the central research question, I explore teachers' understanding of their experience through their description of their team-based involvement in the action research process in the professional learning context with interest in the outcomes in relation to their affect and any transformative learning occurring for them.

Five issues related to transformative learning, and identified by researchers as provocative, namely experience, empathy, good transformation, desire to change and methodology (Taylor & Cranton, 2013) will serve as further stimuli for me in this research study and my interests in them are expressed in research sub-questions. Teachers' perspectives are the basis for their beliefs and values, and teachers' responses throughout this research in relation to their professional learning experiences give insight into how teachers perceive, interpret and make meaning of their world (Mezirow, 1991a). Teachers' responses will be vital to answering my research questions. My findings in relation to the sub-questions will assist me to answer the central research question.

The research sub-questions are numbered 2-10.

2. What are teachers' perspectives in relation to their involvement in the original action research-based professional learning? This question is important to address since experience is the foremost channel of transformation (Taylor & Cranton, 2013).
3. What evidence in relation to affect can be gathered from teachers' reflections on their experience and their perspectives of their transformative learning? The nature and quality of any such evidence will be important to recognising any influence of emotions occurring in transformative learning (Stevens-Long et al., 2012) that Taylor and Cranton (2013) suggested likely, and particularly in relation to empathy.
4. Why do some teachers revise their perspective and others don't?
5. Does action research have the potential to lead to transformative learning for teachers and if so, how? This question is pertinent since there is a sense of perpetuation in the literature that transformative learning is inherently 'good transformation' (Taylor & Cranton, 2013) and this research has the potential to explore this assumption.
6. Do teachers experience transformative learning from their involvement in action research?
7. How do transformative learning experiences unfold for teachers?
8. What do teachers who describe changes in perspective across time, see as their transformation?
9. In what ways can action research transform teachers' sense of self?

Questions 4-9 will inform discussion around teachers' perceptions of any transformative learning and any potential for action research to direct a change in their perspective. There is a general assumption (Taylor & Cranton, 2013) that adult learners cannot be forced into a process of transformation, but must be open to change and willing as participants in a process

that has potential to steer them towards changing perspective. The last sub-question will encourage a focus on recommendations for future teacher professional learning.

10. How might transformative learning be fostered to promote future professional learning for teachers?

1.13 Conclusion to Chapter 1.

In this chapter, my unique research opportunity, found in connection with my work as an educator and facilitator of professional learning for teachers has been introduced. My early reconnaissance of the literature has stirred me to focus on and understand perspective, transformative learning and affect. The key terminology recurring across the transformative learning literature and some of the intricacies of meaning, have been introduced. My purpose and aims for the research have been stated along with the importance, relevance, implications and responsiveness as justifications for my research. Chapter 1 stated my research questions and they are restated in the Literature Review in Chapter 2.

Chapter 2 LITERATURE REVIEW

2.1 Introduction to Chapter 2.

My process to discover the literature began with a wide and exploratory approach. I sourced literature through extensive online searches using key words like teacher researchers, action research, adult learning and teacher professional learning. I followed leads in published research to find papers on connected topics and over time began to form a more-focused view from repeated searching and reading. I looked for publications to explore and understand some of the existing research that could help me to shed some light on the context of my study and possible ways to research it. Eventually, through my exploration I discovered a gap in the literature and later, some references to transformative learning. These understandings were influential to me finding my direction in this research. I have come to understand the background and evolving theories of transformative learning through my readings and have built my knowledge of the relevant theories. In this chapter, I review the literature that helped me to build my knowledge base and that roused what I believed were some of the possibilities and implications for my research. This chapter is not an exhaustive literature review because the topic of transformative learning has been extensively researched for over 40 years and is the subject of prolific books, articles and online resources. My review of the literature eventually settled to focus on five key areas that have become my research themes; adult learning, the affective domain, action research, perspective change and transformative learning and these elements together were galvanising for my research journey.

2.2 Preamble.

Through this research, I seek to build understanding of a phenomenon in the context of teachers' professional learning. The research is focused on understanding any transformative learning occurring for teachers in connection with their professional learning and their conceptual understandings and affect in relation to it, because this is an area where there is no clarity in the extant literature. Theories explaining adult learning and development abound in the literature and include a vast amount of knowledge. My literature review was productive in discovering relationships, identifying major themes and identifying gaps in the literature in adult learning and perspective transformation. The seminal work in adult learning and perspective transformation (Mezirow, 1975, 1978) is foundational to my research. Research into the theory of transformative learning and scholarship surrounding transformative learning theory (King, 2009; Cranton and Taylor, 2013) has informed my understanding. These are highlighted for reasons of practicality and feasibility. Research and the resulting theories by these researchers have informed my research study.

The fields of both adult and transformative learning continue to grow, although much of the research is considered to be redundant (Cranton and Taylor, 2013). This view stems from a perception that in-depth theoretical analysis is being overlooked because much of the research about transformative learning deals with scholarship and is over-reliant on literature reviews. Cranton and Taylor (2013), concerned that transformative learning research is nothing more than a treadmill where a theory about transformative learning is in progress, provocatively questioned if transformative learning remains a useful concept.

My research is grounded in a unique professional learning context for teachers, elaborated in Section 2.3.3.3, and will not be repeating the 'same' research to make little progress in a theoretical sense as Cranton and Taylor (2013) suggest is occurring in repeated, interpretive studies. This study is an original opportunity to research transformative learning in the context of teachers' professional learning and responds to a perceived gap in the literature in the role of the affective domain in transformative learning. Optimistically, my research study could rejuvenate the theory of transformative learning that King (2009) suggested has evolution possibilities only limited by the ability of transformative learning researchers who are drawn together by the vision and dream of human transformation. The research may lead to an opportunity to enhance the theory of transformative learning and appease concerns held by Cranton and Taylor, by being something more than research at the margins.

Cranton and Taylor (2013) had concerns that interpretive research design is an overused methodology to investigate transformative learning at the expense of the positivist and critical research approaches that could lead to theoretical progress or enhanced theory. A positivist research approach would be suited to a quest for objective knowledge to test a theory by deduction. For the purpose of my research study, transformative learning is perceived to be a social process; complex and contextual, as it is challenging. An interpretive approach to the research was used with a view to discover the meanings and social processes that the unique group of teachers attach to their professional learning and any transformative learning occurring for them. A positivist or critical research approach, could not achieve the discovery of the attitudes, values, beliefs and motivations of the teachers involved in this research and this is essential to understanding the role of the affective domain in any transformative learning occurring for the unique group of teachers in my study.

In contrast to their interest and pursuit of positivist approaches to transformative learning research, Cranton and Taylor (2013) suggested there are specific aspects that could provoke further research including naming "experience, empathy and desire to change" (p.35)

as constructs that have been rarely explored and deconstructed. These specific aspects are social phenomena in nature, relating to people. They are complex and contextual and are not likely to result in clear patterns and are more suited to research with an interpretive approach. Cranton and Taylor (2013) acknowledged that experience is socially constructed and that it is central, along with critical reflection and dialogue, to transformative learning theory. My research study has crafted research questions to include the aspects identified for further study by Cranton and Taylor (2013) and I attempt to find and explore evidence of the constructs they highlighted through detailed interviews and an illustrative example case analysis in my research.

Empathy is the quality of being able to identify with the perspectives of others and it is rarely discussed in the transformative learning literature (Cranton and Taylor, 2013), although the significance of emotions in learning is commonly acknowledged. Mezirow (1991a) elaborated the emotional strength of an initial experience relates to how easily it is recalled by the adult learner and the response that is evoked because "the stronger the affective (emotional) dimension of an interpretation (of objects, stimuli or events) and the more frequently it is made, the easier it is to remember" (p.36). Empathy has cognitive and behavioural aspects that are revealed in a person's ability to comprehend the perspective of another human being, usually displayed through an ability to communicate the comprehension of the other's perspective through verbal and non-verbal means. Empathy is inherently related to transformative learning since emotions are significant to learning, and reversely perspective transformation is often associated with having self-awareness through empathy (Cranton and Taylor, 2013). Emotional self-awareness by a learner from having empathy can enhance the process of learning, suggesting empathy and emotions are related in the fostering of transformative learning (Cranton and Taylor, 2013).

Cranton and Taylor (2013) are an influence and a source of inspiration to this research study through their posing of questions for consideration in future research about transformative learning. Some of the questions by Cranton and Taylor (2013) are echoed in the research sub-questions in my study to explore teachers' reflections on their professional learning and understand any transformative learning occurring for them. Cranton and Taylor (2013) pose multiple questions intended to reinvigorate research into transformative learning such as, "What is the nature of the experience?" (p.43). This question is considered and the nature of the experience for teachers in action research-based professional learning is the subject of my research sub-questions 2 and 3. Cranton and Taylor (2013) ask, "How does experience unfold in the context of transformative learning?" (p.43). This question is adapted

to reflect the context of teachers' experience and my research sub-question 7 asks, how do transformative learning experiences unfold for teachers? Cranton and Taylor ask, "How can we foster new experiences that have the potential to lead to transformative learning?" (p.43). This question informs my research sub-questions 5 and 10: Does action research have the potential to lead to transformative learning for teachers and if so, how? How can transformative learning be fostered in future professional learning for teachers? Cranton & Taylor (2013) want to know why some people revise their perspectives and others don't. This also interested me and leads me to ask, in research sub-question 4, why do some teachers revise their perspective and others don't?

Another of the questions by Cranton & Taylor (2013) informs research sub-question 3. "Are empathic teachers more effective at fostering transformative learning and if so, how?" (p. 38), emerges in my research as: What evidence in relation to affect can be gathered from teachers' reflections on their experience and their perspectives of their transformative learning? Any influence of emotions that can be gathered from the teachers' reflections on their experience and perspectives of any transformative learning may shed light on the aspect of empathy. My interpretation of the evidence from teachers in this research may reveal the role of empathy and provide scope to explore affect through this specific aspect of emotion.

The work of Kathleen King has been instructional in the design of my research study, and her Learning Activities Survey has been adapted and utilised. The Learning Activities Survey (LAS), (King, 1997), is a data gathering instrument used in this study to discriminate those teachers who describe experience of perspective transformation from those who don't. The LAS was minimally adapted with some words changed to relate to the context and utilised in my study to gather information about teachers' experience from their descriptions of professional learning through extended responses.

My analysis of the literature to draw out and synthesise important elements of past research guided me in identifying five themes for my research. The themes are adult learning, the affective domain, action research, perspective transformation and transformative learning. Coverage of each theme is progressed in separate sections in this chapter and perspective transformation and transformative learning are explained in detail because these elements are essential to understanding the scope of my research. My literature-informed perspective informs the research design in my research.

The topics associated in my research and covered in the literature review stem from my research aims to build understanding of a phenomenon occurring for teachers. To understand teacher experiences in professional learning and any relation to their affect in any

transformative learning occurring for them, I need to explore the impacts, connections, and interactions of various concepts with the teachers involved. My research draws together the elements in my research by exploring their reflections, beliefs, values, emotions, in connection with their experience of action research for their professional learning. The concepts or elements are integrated in the context of transformative learning. They are addressed in the literature review and arranged according to five identified themes namely, adult learning, the affective domain, action research, perspective transformation and transformative learning to present a coherent literature review. The theoretical perspectives presented in the literature review assist me to arrive at my theoretical lens for the research and the conceptual links made are highlighted.

To close the preamble, adult learning is theme one since adult learning is distinct from adolescent learning because it requires reflective judgement arising from critical reflection and participation in critical discourse to assess reasons and beliefs (Mezirow 1991a, 2000). Affective domain, theme two, elaborates the links between values and emotions, and considers these in relation to action researchers to understand professional learning outcomes and any transformational change for teachers. Action research as theme three is important conceptually and theoretically for my research as it was the core activity of the teachers in the professional learning context at the centre of my research. Perspective transformation, theme four, continues to draw together teachers' sense of self, values, the affective domain, values, emotions, to understand where these relate in the conceptual understandings of teachers as action researchers. Perspective transformation is important to understand as it relates to transformation theory. My research is a study and synthesis of multiple teachers' reflections to understand their perspectives of their professional learning. Transformative learning, theme five, is a conceptual framework, an aim, a process, and a vision for adult learning (Dirkz,1998). There is an affinity between action research and transformative learning. Transformative learning has theoretical links to adult learning. Through my review of the literature, I draw together these elements, in five themes, and arrive at my sense of having found alignment with some theorists as a foundation for my research study to begin to understand the phenomenon occurring for teachers.

2.3 Research themes.

2.3.1 Theme One: Adult learning.

Mezirow (2000) defined an adult as a person who is old enough to be held responsible for his or her acts. He considered that adulthood may be understood as a learning process where the meanings attached to life by individuals become clarified. Adult priorities and

interests change over time throughout the stages of life, often to the point of transformation through expanded awareness, critical reflection and dialogue with others that is validated through reflective action (Mezirow, 2000). Mezirow considered this process of learning and clarification helped people move toward fuller realization of agency. He proposed that adult learning was distinct from adolescent learning because it required reflective judgement arising from critical reflection and participation in critical discourse to assess reasons and beliefs, a process he suggested adolescents were still learning to do.

In his adult learning theory, Mezirow (1991a) identified that adult learning may assume four distinct dimensions namely "learning through existing meaning schemes, learning new meaning schemes, learning through the transformation of meaning schemes and learning through the transformation of meaning perspectives" (p. 98). The last two of these forms involve transformation and for Mezirow (1991a) they constitute the two dimensions of transformative learning.

2.3.1.1 Meaning schemes

Meaning schemes (Mezirow, 1991a) refer to an individual's frame of reference. They are a personal meaning system reflecting prior learning and knowledge and include beliefs, values, feelings and attitudes. New experiences or new contexts are assimilated through meaning schemes when they are recognised as having meaning in accordance with the totality of the individual's experiences in life. New information may sit comfortably with the schemes an individual has from previously learned experiences, or it may not. Individuals may need to reflect and change a scheme to perceive, comprehend, interpret and learn from new experiences. "Reflection on content or process may result in the elaboration, creation or transformation of meaning schemes" (Mezirow, 1991a, p. 6). A new meaning scheme can strengthen or replace an old one through the integration of new information or an individual can construe a new meaning scheme if the change does not require a change in values and beliefs. According to Mezirow (1991a), there is much evidence to suggest meaning schemes can present a "boundary condition for interpreting the meaning of an experience" (p. 32), such that individuals can accept and integrate new information from experience when it aligns with their frame of reference or disbelieve or ignore what does not fit. This can be intentionally or unintentionally applied by the individual to make meaning.

2.3.1.2 Meaning perspectives

Meaning perspectives are a collection of meaning schemes, in a higher order view of the world held by the individual. According to Mezirow (1991a), "meaning perspectives are the rule systems governing perception and cognition" (p. 5). He also refers to meaning

perspectives as "perceptual and conceptual codes" (p. 34). If a new experience challenges an individual's meaning scheme, or if meaning schemes are repeatedly challenged in a similar context, there is potential for the triggering of a change in an individual's meaning perspectives. A transformation of meaning perspectives, also referred to as perspective transformation, occurs much less frequently than the everyday occurrences of adaptations to meaning schemes and begins when a situation or new information cannot be interpreted by the individual using their existing meaning perspective. If they cannot validate a situation or a context in their personal world with their prior learning or align the new information with their existing beliefs or values, then they cannot continue to learn. The individual may reflect on their meaning scheme or their meaning perspective to resolve, problematize, negate or in other ways transform their meaning scheme or perspective. "The most significant transformations in learning are transformations of meaning perspectives" (Mezirow, 1991a, p.38). Transformed meaning schemes and perspectives may result in changes in the individual's sense of self, approach to life or way of being, leading the individual in the direction of transformative learning that may involve significant life changes.

Mezirow (2000) expanded his view of adult learning to describe a philosophy of adult education where he defined adult education as:

> an organized effort to assist learners who are old enough to be held responsible for their acts to acquire or enhance their understandings, skills, and dispositions. Central to this process is helping learners to critically reflect on, appropriately validate, and effectively act on their (and others') belief, interpretations, values, feelings, and ways of thinking. (Mezirow, 2000, p. 26)

Mezirow (2000) also described human identity in a reality that is intersubjective. "Our identity is formed in webs of affiliation within a shared life world" (p.27). He believed life histories are bound in relationships with others and that it is in the contexts of these relationships and existing cultural paradigms that we become the persons we are. In particular, "transformative learning involves liberating ourselves from reified forms of thought that are no longer dependable" (Mezirow, 2000, p. 27). This theorisation is interesting in the context of my research. Teachers engaged in collaborative action research in their school contexts to liberate themselves from a research problem they identified in their practice or school and their professional learning journeys in the professional learning program were reliant on their collaboration in teams. Teachers brought different strengths and skills to the program and learning from each other was considered essential to their individual and team success and encouraged. The facilitators of the professional learning program related to the teacher teams

as research mentors and critical friends. Webs of affiliation between the facilitators and the teachers were through supportive mechanisms including school visits, face-to-face workshops and phone and email support. The support offered to teachers in the professional learning context was believed to be important to the success of the program for teachers' professional learning.

2.3.2 Theme Two: The affective domain.

Bloom, Engelhart, Furst, Hill and Krathwohl (1956) described learning in its cognitive domain. The cognitive domain is understood to explain how we know and understand through levels of processing that involve knowledge, comprehension, application, analysis, synthesis and evaluation. There is a similar approach to theorisation in Krathwohl, Bloom and Masia (1964) and Krathwohl, Bloom and Bertram (1973) suggesting that values, attitudes and behaviours reflect processes and outcomes of the affective domain of learning. Affect encompasses the display of emotional state, the sense of feeling, including abilities and characteristics influencing the appropriateness of our interactions with others in the ways we listen and respond to situations. Affect includes how we feel emotionally and is reflected in demonstration of motivation, balance, consideration, judgement and changes in behaviour in response to new situations.

Shephard (2007) warned of "notorious difficulty" (p.94) in the practical aspects of determining learners' values so that changes can be monitored, even where affective learning outcomes are clearly communicated and inherently valued. In the professional learning program that provided the impetus for this research, data on teachers' affective learning outcomes were not collected. However, to my awareness as a project facilitator during the program, it was apparent teachers were in various stages of professional growth as action researchers. Some were complete novices and other were more experienced in action research. Teachers' attitudes and behaviours could change as their professional learning activity progressed. It is possible the potential existed for their values to also change as an outcome of their learning. The goals for the teachers in their action research projects were unique to their research focus areas. They commonly approached their action research to better understand their students' learning needs in their classroom context or wanted to ensure their educative process was research-based and the quality of their teaching was enhanced. All teachers wanted to ultimately enhance the learning outcomes of their students. The professional growth of the teachers was encouraged throughout the professional learning in a supportive and collaborative environment created for their team-based action research. The omission of data gathering in relation to teachers' affect, the lack of understanding about

growth in this area and the resulting lack of insight that could be acquired about teachers' affective learning outcomes may well reflect neglect in the professional learning project. The full extent of teachers' professional learning outcomes is not yet fully understood in the absence of this information.

Kincheloe (2012) has a strong message on research processes from the perspective of values, objectivity and ideology. His viewpoint is important in the selection of what is being investigated in my research, the methods in doing so and the analysis and reporting of data as findings. He suggested there has been long standing assumptions underlying social research, made by critical qualitative researchers about society. Essentially, he stressed that critical qualitative inquiry is not a neutral activity. It draws upon our values, our hopes and the mysterious elements of our social worlds. We are constantly confronted with value questions dealing with morality since social science subjects are humans. The value dimension of this research study will be important to monitor throughout the research phases both from the perspective of the participants and from the perspective of researcher. My research may find more teachers for whom transformative learning was a reality and I will need to understand more about their experience from the way they describe it, and what the implications are for future professional learning for teachers. The challenge in this research will be to explore teachers' attitudes, beliefs and values to understand how these elements influence any transformational change. Beliefs impact behaviour and practice, and attitudes influence how adults respond to their beliefs. Adults hold beliefs based on experiences and place value on certain beliefs which come to be expressed as attitudes. These elements will be explored during the semi-structured interviews in Phase Two of the research design explained in Chapter 3.

2.3.3 Theme Three: Action research.

2.3.3.1 What is action research?

Action research is an applied, systematic and cyclic process of inquiry used to determine effective solutions to everyday problems. It is a research method that has been in use for over 80 years. The original concept is associated with the work of Kurt Lewin (1890-1947) who viewed action research as a cyclical and dynamic approach to problem-solving that can be collaborative in nature if a group of people share a problem and work together to resolve it (Hine, 2013; Lewin, 1946, 1948).

Action research can be implemented by individuals, however it is more common for people with a shared interest, such as teachers focussing on their profession, to work together as a collaborative group to investigate a problem and work towards a solution. Action

research has come to be widely recognised as a powerful mechanism for teacher professional learning and school improvement where knowledge and skills are believed to be certain growth areas (Hine, 2013). Participants in action research are considered 'insiders' if they have access to knowledge which is peculiar to their shared research focus (Kemmis et al., 2014). Collaboration amongst 'insiders' for the purposes of completing action research is referred to (Kemmis et al., 2014) as participatory action research.

Action research can originate from one or more people having an interest in finding a solution to a problem using an action research approach. The problem may be common to the group. Action researchers systematically plan for and carry out an action designed to strategically influence the problem situation and then reflect on the outcome of their action. Action research involves action researchers in repeating cycles of planning, acting and reflecting. Each successive action cycle is planned to improve upon the previous cycle through a process of critical reflection. The amount of influence on the problem is measured through the collection, analysis and evaluation of data collected in each action cycle. Researchers enact further changes using strategically planned actions to move towards improved outcomes or an ultimate solution to their problem. Learning by the action researchers occurs through their enactment of strategic actions in each cycle and through their deep reflection on the outcome that follows their action. Knowledge gained by the researchers from each action cycle is instrumental in the planning for action in the successive cycles. The action research process can be repeated indefinitely or until the desired outcome is achieved. There are variations of action research and published models include various-named steps which identify the cyclic process involved. Stringer considered the action research process is summed up in the Look, Think and Act model (Stringer, 1996). A similar representation (Kemmis & McTaggart, 1988) has a system of planning, acting, observing and reflecting sequences. A series of action research cycles allows researchers to move towards evidence-supported improvement.

Action research is context specific. It is localised in its problem-solution focus and its purpose exists in understanding the dynamics of a problem to resolve it. Other scientific research by way of contrast can have a broad focus, be situated in multiple contexts, have application across situations or be generalised in purpose to create principles or theories or frameworks relevant across a range of contexts (Parsons, Hewson, Adrian, & Day, 2013).

2.3.3.2 Teachers as researchers

Teaching professionals working collaboratively to conduct action research can be referred to as teachers as researchers (Kincheloe, 2012). When teachers complete action

research and reflect on their actions they can assess the forces at work in their classrooms or schools that influence their students' learning outcomes. They can contemplate and initiate changes to practices or make changes in the dynamics or forces they have identified as problematic to improve student learning outcomes or teachers' practice. The most important benefactors from teacher action research are the students they teach (Dana & Yendol-Hoppey, 2014). Through reflective practice and their developing insight through repeated action cycles, teachers can make positive changes in their classrooms and wider school environments.

Action research offers teachers a methodology for systematic inquiry. Teachers can investigate, understand and improve teaching pedagogy and classroom practices to resolve any problems they have identified in their school and implement change that is evidence-based. Teachers can monitor the influence of the changes they make through their series of action research cycles and evaluate how their actions effect students' learning outcomes through systematic data collection, analysis and reflection. Action research methodology is suitable for use by individual teacher practitioners but is more effective in collaborative teams where teachers can reflect together on new knowledge or practices and review pedagogy together to improve the quality of teaching and learning in their classrooms or across whole schools.

Among the approaches to action research, participatory action research most closely describes the action research that is the context of my research, carried out by teachers for their professional learning. The action research experience central to this study involved small teams of teachers, working together as researchers to complete repeated cycles of planning, acting and reflecting to implement changes in teacher practice to drive improvement (Hine, 2013) in students' learning outcomes and teaching practices in response to an identified school-based problem. The teachers reflected on their data to inform their actions going forward.

Kincheloe (2012) reflected harshly on the positivistic, top-down standards that he believed have been shaping the educational cosmos. He suggested promoting teachers as researchers is akin to creating a vibrant professional culture with practitioners who can reinvent themselves and understand their students with a sophisticated pedagogy involving complex, critical practice. Kincheloe (2012) suggested "teachers engaged in complex, critical practice find it difficult to allow positivistic standards and their poisonous effects to go unchallenged" (pp.18-19). He is supportive of a critical, constructivist epistemology and rejected what he asserted is the positivistic notion that facts and values are separate.

2.3.3.3 Team-based learning and action research

Team-based learning and action research were the features of the unique professional learning that teachers engaged in that lead some teachers to experience transformative learning outcomes. My interests as one of the professional learning facilitators working to support the teachers involved in the ISQ Teachers as Researchers (TAR) Project, and the eventual outcomes for some teachers, were the connection and the stimulus for this research study.

Teachers working together in small teams was considered an effective approach to work with a large number of teachers for their professional learning in an engaging manner that would foster their active group participation, regular reflection and discussion and problem-solving, over a minimum of a 12-month period with facilitator support and feedback during that time. Teachers' engagement in inquiry on their own does not have the same impact as collaborative inquiry (Butler and Schnellert, 2012).

There was an intentional focus to bring groups of teachers from independent schools together to work on their school-based problem, or a problem connected with their pedagogy. They could plan for and apply the research-based knowledge they had gathered as an authentic means to problem-solving or practice-building for their school context.

Schnellert and Leyton (2014) describe mindful inquiry by teachers as beginning with the defining of a problem and the framing of it as a relevant research question. Teachers can draw on resources to advance their professional learning including planning to take up ideas in practice, monitor progress towards answering their research question and make adjustments in their actions towards reaching their goals. This rich form of inquiry for teachers engaging in inquiry cycles across time, in the ISQ TAR project, allowed teachers to maintain a focus on improving their practice or resolving the problem they had identified in the beginning, throughout the course of their professional learning using action research.

The ISQ TAR project developed as rich professional learning for the teachers over successive years, having intakes of new teachers in their school teams with some teachers completing multiple years in the project. There were many opportunities for teachers to develop their skills in critical reflection working in groups with their research mentors who also facilitated the project. Butler, Novak-Lauscher, Jarvis-Selinger and Buckingham (2004) note on a practical level, collaborative inquiry by teachers working in a team-based learning environment can be beneficial for teachers because there are structured opportunities for teachers' critical reflection. Often, teachers find that time or conditions are not available to them as busy, practicing teachers for their own critical reflection. Butler et al (2014) point out

it can be difficult to make meaningful shifts in practice without teachers finding the time and the avenues to step away from the immediate demands of teaching in classrooms to reflect on their teaching practice. Further, Butler et al (2014) suggest working with others has the potential to sustain the research momentum towards making changes in practice through the inevitable challenges that teachers face on a day-to-day level in their respective school settings. For the teachers working in collaborative teams to achieve their action research initiatives, the collaborative professional communities they established with their own team members and across teams in the project, gave them energy and enthusiasm for their professional learning with unique learning outcomes for the teachers involved.

Along with opportunity for critical reflection, teachers were developing their interpersonal skill competencies. Their teamwork abilities were not intentionally considered, required or constructed from the outset to be part of the project but their skill sets typically consolidated or developed throughout their action research. Teachers' critical thinking skills were encouraged throughout the professional learning activity. The professional learning for teachers was a facilitated, supportive and collaborative space where teachers shared updates with other schools at the mid-way point in their research and gave final reports and presentations to share their overall research findings. It was a productive environment of knowledge-building and active trialling as teachers were responsible to design their action plans and implement their action cycles before critically reflecting on their success or otherwise. Teachers in their collaborative teams conducted successive, multiple rounds of action research for their professional learning.

2.3.3.4 Path to empowerment

Action research is considered an effective means to support teacher professional growth and development because it allows teachers to increase their knowledge and change practice through critical reflection. It is the process of engaging in critical reflection that is not usually evident in the more traditional approaches to teacher professional learning such as in teacher in-service or workshops designed to deliver specific content for professional learning. Action learning and action research allow teachers to find ways to approach their "teaching and learning that are professionally relevant, personally meaningful and effective in facilitating improved performance for students" (Fletcher, 2005, p. 17). Action research enhances teachers' professional growth as it empowers them to make positive changes in the educative process that can be tailored in response in their respective schools to meet the needs of their learning communities.

Fletcher (2005) suggested when teacher practitioners investigate the effectiveness of their own practice, using action research, it enables transformative learning and improved practice. Action research provides teachers with structure, focus and a methodologically rigorous process to work out any unique problems in classrooms and schools to improve education practices effectively. Teachers need a systematic process to review their teaching practice and with support for their professional learning and development, the dynamic process of action research is an effective tool to improve teacher practice (Fletcher, 2005). From the extensive publication of teachers' inquiry research, the powerful impact of teacher inquiry on the professional learning of teachers and student learning and life outcomes can be clearly seen (Dana & Yendol-Hoppey, 2014).

The benefits of action research for teacher professional learning include the building of teachers' knowledge for application directly in classrooms and promotion of teachers' reflective thinking about professional practices. It increases teachers' pedagogical range, allows teachers to strengthen the links between practice and student achievement and advances new ideas to nurture effective teaching practices (Hine, 2013). Benefits identified for teachers from their involvement in action research also include acquisition of new and/or specialised knowledge, empowerment, changed teacher practice, professional growth, stimulation of thinking, promotion of self-improvement and increased self-awareness through critical self-reflection (Hine & Lavery, 2014b). With new knowledge, teachers bridge the gap between theory and practice. They are more strategically able to relate their expanding knowledge to their teaching contexts (Johnson, 2012) with associated feelings of empowerment from the agency of making their own decisions informed by the data they have collected and interpreted (Fueyo & Koorland, 1997). Teachers can gain insights into their practices, or identified problems in school settings, through their systematic examination and reflection. They can be empowered by finding solutions to the localised issues and can implement positive change in their professional practice with enhanced self-efficacy.

Christie, Carey, Robertson and Grainger (2015) utilised a case study approach, including surveys, interviews and focus groups to investigate critical incidents in adult and higher education. They describe a natural affinity between action research and transformative learning on the basis that both progress "through a spiral of steps" (p.17). and both are triggered by a disorientating dilemma with a dilemma in professional practice potentially having the same effect as a personal dilemma for an individual. Either environment, professional or personal, they believe, could trigger transformation (Christie et al., 2015). This begs the question of whether it is possible to experience a professional transformation without

an individual transformation and vice versa. Action research is important conceptually and theoretically for my research as it was the core activity of teachers in the professional learning context at the centre of my research.

2.3.4 Theme Four: Perspective transformation.

Perspective has a Latin root meaning '*look through'* or perceive, and all meanings of perspective have something to do with looking. Perspective for the purpose of this research is broadly defined as a viewpoint, aligning with a constructivist assumption that perspective is a way of looking at, or thinking about, elements to interpret their meaning. A person's perspective can be revised or replaced in response to changing information, ideas or contexts. This definition of perspective draws upon the constructivist assumptions underlying transformation theory (Mezirow, 1991a). King (2009) explains "the adult learning theory of perspective transformation" (p. 6) through reference to the ten stages that Mezirow (1978) identified "as he studied the changes that occurred among adult women re-entering higher education" (King, 2009, p. 6). Perspective transformation refers to the full cycle of a process whereby an individual acquires new information and attempts to make the new information fit within their existing belief and value structures. If incoming information fits with the pattern of an individual's beliefs, then there is no disruption to their values, beliefs or assumptions. If it does not fit, a balancing process begins where the conflicting information needs to be meshed with currently held beliefs, values or assumptions. A perspective transformation involves having a new way of looking at things; with a different perspective taking root (Mezirow, 1991a). Convergence of values, beliefs and assumptions can result in a new perspective, which may or may not have practical implications for an individual's future decisions and actions (King, 2009). King (2009) reiterated that perspective transformation involves significant or powerful learning arising from some conflict with the individual's already established viewpoint that becomes interwoven with their life, changing their understanding through a qualitative change in their perspective.

King (2000) researched 175 teachers, to gain insight into their experiences of learning technology in their teaching. She used a phenomenological approach in a mixed method study to understand adults' learning experiences. In her initial screening, 156 out of the 175 educators identified with having experienced a perspective transformation in connection with their use of learning technology for educational purposes. The predominant theme in their transformation was a sense of empowerment. King explained that perspective transformation is usually not so commonplace, however she believed the tension around using technology and the urgency to keep abreast in a rapidly changing technological environment, such as

exists in educational technology, had resulted in an "apparently distinctly fertile ground for such experiences" (King, 2000, p. 5). The implications of the research study included recognition that technology can be intimidating and challenging in education contexts for educators. Knowledge of the challenges for teachers when teachers are adult learners in professional development situations is important as "these findings can change the way those responsible for professional development perceive teachers as adult learners, conduct classes, and plan programs" (King, 2000. p.6.). Importantly for my research, "professional development that incorporates hands-on learning, substantial content, collaborative inquiry, peer-to-peer dialogue, and reflective practice can facilitate transformational learning experiences" (King, 2000, p.5).

In my research, any teachers' changing perspectives in connection with their experiences in action research are of interest to understand as perspective change is a forerunner to transformative learning. My search to understand teachers' perspectives, includes exploring, by way of survey and interviews, teachers' outlooks, standpoints, frames of mind, ways of looking at, thinking about or interpreting their learning experience in the TAR program. Teachers' perspectives once gathered will provide me with insights to understand the role of affect in any transformative learning occurring for teachers in connection with their professional learning.

From my consideration that perspective is broadly a viewpoint, my research investigation has multiple layers to gather teachers' viewpoints to understand what teachers have in conceptual understandings concerning any transformative learning from their team-based learning and its relation to affect. My research is a study and synthesis of multiple teachers' reflections to understand their perspectives of their professional learning. In the research exploring their multiple perspectives, my own perspective transformation as the researcher is shaped by engaging in the research and in a later discussion my transformative learning through this research is conceptualised.

2.3.5 Theme Five: Transformative learning.

Dirkz (1998) conceptualises transformative learning, in contrast to learning understood as adaptation, by summarising the key aspects from the viewpoints of four theorists. His compilation of transformative learning, naming Freire, Mezirow, Daloz and Boyd as the key scholars in the area, has a range of concepts that he considers are characteristic in adult education and supportive of transformative learning. These are critical consciousness, having a voice, making meaning from experience, engaging in critical reflection, needing to find and construct meaning, making the unconscious conscious, and,

engaging in an ongoing dialogue with these structures. Learning by way of adaptation is instead to consider knowledge as something external to the learner where the learner acquires it by internalising new learning within an existing relevant cognitive scheme (Dirkz, 1998).

Transformative learning can be thought of as a conceptual framework, an aim, a process and a vision for adult learning (Dirkz,1998). Traditional adult educators typically teach with aims and processes that are subject, or content-related whereas transformative adult educators have a vision for adult learning incorporating aims and processes with attention to values. The aims and processes followed by transformative educators do not involve the learning of content that is scintillatingly different, but their different thinking guides their processes often with the incorporation of different instructional strategies. Proponents of transformative learning can follow different processes based on different assumptions to achieve adult learning goals, adding to the complexity of understanding what transformative learning is (Dirkz, 1998). Transformative learning is a complicated construct in the field of adult education with many theoretical, practical and ethical implications. It has attracted researchers and practitioners with varied theoretical perspectives from a wide variety of practice contexts. Christie, Carey, Robertson and Grainger (2015) utilised a case study approach, including surveys, interviews and focus groups to investigate critical incidents in adult and higher education. They described a natural affinity between action research and transformative learning on the basis that both progress "through a spiral of steps" (p.17). and both are triggered by a dilemma in professional practice potentially having the same effect as a personal dilemma for an individual. Either environment, professional or personal, they believe, could trigger transformation (Christie et al., 2015).

2.4 Theory of transformative learning.

2.4.1 Background.

By 1998, there were at least four different strands of thought circulating on the theory of transformative learning (Dirkz, 1998). The work of scholars Paulo Freire, Jack Mezirow, Larry Daloz and Robert Boyd, before and after this time, were influential in generating conceptual grounding for the construct and a collective understanding has developed progressively.

For Paulo Freire (1970), knowledge was thought to be closely connected with human nature and created by an individual in relation with others. He believed transformative learning was consciousness-raising involving an adult learner in critical consciousness to develop critical perspective. In his view, reflection and dialogue were important in the learning process. Freire's somewhat political view had overtones of transformation as a

conduit to liberation from oppression and inequality and included his concept of conscientisation; a critical consciousness brought about through action and reflection. For Dirkz (1998), transformative learning is about learners taking more of a world view with the learning being liberating on both social and personal levels. Like Freire, Mezirow held a constructivist view of knowledge and learning that knowledge is constructed socially. Dirkz (1998) observed that both Freire and Mezirow considered reflection and dialogue as key elements of the learning process with Mezirow believing learners' critical reflection on their personal assumptions and beliefs is fundamental to successful learning. Mezirow's theory was informed and influenced by the works of Kuhn (1962) and Habermas (1971) through understandings known as Kuhn's Paradigm and Habermas's Domains of Learning (Kitchenham, 2008). Essentially what Mezirow refers to as meaning perspectives, Kuhn refers to as a paradigm. Kuhn (1962) described paradigmatic transformations in knowledge of the scientific world which Mezirow considered a counterpart of what he described as perspective transformation. Habermas' work in establishing domains of learning influenced Mezirow's formulation of transformative learning theory. The former had stressed the importance of communication between people to reach a common understanding so that any outcome was not a solitary person's sense about something in the objective world. Instead he highlighted the inter-subjective sense that speaking and acting with others creates, as people come to an understanding with one another about something (Kitchenham, 2008). Three major theorists influenced Mezirow's early transformative learning theory namely the work of Kuhn (1962), Freire (1970) and Habermas (1971) with Mezirow's (1978) theory drawing upon and combining the thinking into one frame. The associations between Mezirow's thinking and the other theorists are presented in Appendix A, Table A1. Mezirow theorised along an evolutionary path from an initial position published in 1978, to his proposal of a process underpinning personal transformation incorporating 10 phases. His phases of perspective transformation are presented in Appendix B, Table B1. Mezirow's theory had grown to include meaning schemes, meaning perspectives and perspective transformation. According to Mezirow (1978), a learner's journey towards perspective transformation begins with the experience of a disorientating dilemma.

> A disorientating dilemma that begins a process of transformation also can result from an eye-opening discussion, book, poem, or painting or from efforts to understand a different culture with customs that contradict our own previously accepted presuppositions. (Mezirow, 1991a, p. 168)

Mezirow subsequently adapted his theory many times and Kitchenham (2008) noted that revisions continued across the years 1985-2003. Kitchenham (2008) suggested the work by Mezirow (1978) be considered as a paradigm in the field of adult learning because his work had refined many theoretical views to help explain unanswered questions and created a common worldview about adult learning that is grounded in cognitive and developmental psychology.

Mezirow (1978) renamed the process of making meaning, calling it "perspective transformation", where perspectives were sets of beliefs, values and assumptions that are acquired during one's life experiences. So, perspectives are a lens in Mezirow's conceptualisation, through which one can imagine a learner consolidating the known and puzzling with the new. As Dirkz (1998) observed, for learners as knowledge organisers, perspectives are often a barrier to understanding, the gatekeepers through which disorienting dilemmas can be recognised thereby triggering a process of transformation.

2.4.2 Evolving theory.

King (1997a, 1997b, 2000, 2001, 2002, 2003, 2005, 2009) developed her view of the theory of transformative learning during 14 years of focused research. She explored transformation in a range of contexts including in adult English as a Second Language (ESL) learning, adult learning experiences in educational technology, perspectives of teaching and learning, and feminist research and pedagogy.

King (2000) found that perspective transformation provided an insightful framework for viewing the learning experience of 208 adult ESL learners enrolled in an ESL program. Her data, collected through survey, indicates that participants' perspective transformation was facilitated specifically by their learning activities. This finding is important to my research study since some teachers anecdotally reported their frames of reference had subsequently changed in response to their professional learning incorporating action research in the ISQ TAR program. King's (2000) research linked professional learning activity with perspective transformation. Her methodology involved two basic data gathering methods, survey and follow-up interviews.

King (2002) explored educators' learning experiences in learning educational technology using a mixed quantitative and qualitative method. The journey of learning educational technology was found to have the potential to deeply impact educators' perspectives and led King to propose that there is a journey of transformation. The journey of transformation according to King (2002) is her attempt to address the fluidity expressed in the stages outlined by Mezirow (1978). The journey of transformation (King, 2002) is a fluid,

interdependent pathway whereby an adult learner moves through stages of fear and uncertainty, testing and exploring and finally affirming and connecting before forming a new perspective. The four stages of the journey offer a summary of the 10 phases, also called stages, by Mezirow (1978) and the summarised view may help me in my research analysis phase to interpret the stages of perspective transformation for teachers bearing in mind the fluidity described by King (2002). The relationship of King's (2002) stages to Mezirow's (1978) stages, in the alignment made by King (2002) is shown in Table 2.1. and expanded in Table 2.2.

Table 2.1

Alignment Between Journey of Transformation and the Mezirow Model

A Journey of Transformation (King, 2002)	Perspective Transformation Stages (Mezirow, 1978)
Fear and Uncertainty	Stages 1 & 2
Testing and Exploring	Stages 3, 4, & 5
Affirming and Connecting	Stages 6, 7, 8, & 9
New Perspectives	Stage 10

(King, 2002)

Table 2.2

Comparison of the Mezirow (1978) 10 Stages of Transformative Learning and King (2005) Journey of Transformation

Perspective Transformation Stages – The 10 Stages by Mezirow (1978)	The Journey of Transformation by King (2002)
1. A disorientating dilemma	Fear and Uncertainty
2. Self-examination	
3. A critical assessment of epistemic, socio-cultural or psychic assumptions	Testing and Exploring
4. Recognition that one's discontent and the process of transformation are shared	
5. Exploration of options for relationships new roles and actions	
6. Planning a course of action	Affirming and Connecting
7. Acquisition of knowledge and skills for implementing one's plans	
8. Provisional trying of new roles	
9. Building of competence and self-confidence in new roles and relationships	
10. Reintegration of new perspective into one's life	**New Perspectives**

(King, 2002)

The Fear and Uncertainty stage (King, 2002) aligns with the Mezirow (1978) Stages 1 and 2 of experiencing a disorientating dilemma and beginning a process of self-examination. The Testing and Exploring stage (King, 2002) aligns with Stages 3, 4 and 5 being a critical, assessment of epistemic, socio-cultural or psychic assumptions, recognition of the sharing discontent and the process of transformation and an exploring of options for new roles, relationships and actions (Mezirow, 1978). The Affirming and Connecting stage (King, 2002) aligns with Stages 6 through to 9 namely planning a course of action, acquiring knowledge and skills to enact a plan, a trying out of new roles, and building of competence and confidence associated with a new relationship or role (Mezirow, 1978). Finally, the stage of New Perspectives (King, 2002) aligns with the final Stage 10, a reintegration of a new perspective (Mezirow, 1978).

King's research (King, 2002) exploring educators' learning experiences in educational technology is of interest because her analysis included consideration of 'Martin's Case'. Martin's Case was one participant's experience used to illustrate the characteristics of a

journey of transformation. Martin's case was described as a 'classic' case because it included all four parts to the journey and ended in transformative learning. Martin's case, and the idea and possibility of using one participant's experience to illustrate a journey of transformation interested me. King (2002) confirmed the experience of the educators in the study showed signs of change in ways that were typical of transformative learning. The changes included their self-directed learning, new teaching methods, development in critical thinking skills, learning that was problem-based and a sense of growing teacher confidence and empowerment. Ultimately, King found the changes that the educators' experienced had overwhelming effects on their professional practice and their perspective (King, 2002).

King (2003) explored pedagogy using a qualitative research design and multiple methods of data gathering with the objective of uncovering the experiences of the adults who were present in New York when the World Trade Centre was attacked by terrorists. Constant comparison was used to identify categories of information embedded in the narrative provided by the adult participants. The data analysis used by King in her study included open coding. It was only a small study however, which needed to be interpreted with care so as not to generalise beyond the group.

> The power of collaborative research seems to be inherent in the depth of the participants' experiences, dialogue of the co-researchers and co-learners, multiple perspectives and in participants' overall reactions. Although an earlier study found highly cognitive and affective responses (King, 2003), this later study produced social action along with the personal transformations. (King, 2009, p. 128)

King (2009) indicated "that by engaging in reflection and dialogue and by constructing meaning, adults may begin to see the transforming perspectives grow out of themselves, to connect with their contexts, worlds, as well as to inform their personal actions" (p.128).

Christie, Carey, Robertson and Granger (2015), with the knowledge that context and its influence on transformative learning needed to be better understood and also accounted for (Taylor, 1997), used three case studies to investigate how Mezirow's (1978) theory could be put into practice in Adult and Higher Education. The case studies were separate with different sets of learners at different times and in different places and utilised a values survey, interviews and focus groups. Their research investigated how they could trigger disorientating dilemmas and put a process of transformative learning into practice, in contrast to my research and many other studies that look for the existence of transformative learning. They used action research methodology to study the effects of transformative learning theory introduced in workshops to develop critical and analytical reflection in their adult learners. They did this

to understand both action research and transformative learning theory. Christie et.al., (2015) found that professional learning experiences involving individuals in completing action research projects, where the learners are inducted with the theory of transformative learning and have the tools to develop skills in critical and analytical reflection, are important because they can serve to model the benefit of critical awareness in learning situations. This has implications for delivery of future professional learning for teachers and has implications for possible research continuing in the long term. In general, transformative learning is thought to add value to organised learning by training individuals to think for themselves, to re-assess their learning and apply what is learned to unexpected situations. Christie et al., (2015) concluded that adult learning that is "constructivist in nature can reveal the way in which all knowledge in all fields are social constructs and offer participants an opportunity to reconsider their own world view and critique the assumptions that underlie that view" (p.22).

2.5 Inspiration for research.

King (2009) offered an invitation to future researchers to continue the research into transformative learning by following her central research focus into learner experience and significant learning for learners. King believes in "the vibrant power of sequential, collaborative educational research" (King, 2009, p. xxvii) where individuals can "build upon each other's work to take all, and the field of adult learning, to new places in the understanding of transformative learning" (King, 2009, p. xxvii). Her epistemology, like mine, is one informed by the theory of transformative learning. Drawing upon a sense of our common purpose to understand transformative learning through research, the Learning Activities Survey (LAS) instrument developed by King (1997a, 1997b) and used since in research in adapted forms is a suitable tool to use to identify "whether adult learners have had a perspective transformation in relation to their educational experience and if so, to determine what learning activities have contributed to it" (King, 2009, p.14). King (1997a) piloted the LAS and the instrument's reliability and validity were confirmed for inter-rater reliability by independent coding by another researcher using multiple sources of data to confirm analysis along with member checks. These methods provide me with insights into ways to ensure the rigor in my study. The research work by King and the many researchers who have explored the field of transformative learning, noting all who begin their investigations with the LAS, is encouraging. The prolific use of the LAS, across many and varied research studies suggests the tool is valuable to building knowledge in the field of transformative learning. My research will use the LAS with appropriate contextual adaptation to identify any perspective transformation and follow-up interviews will identify if any transformative learning has

occurred for the teachers in my research study. King (2009) described herself as a visual person and she sees the value in using a rich communication tool such as a model to represent her research. Vibrant and rich data can be presented and summarised in a model. King stressed the building of a model for beginning researchers can be challenging, however a model can articulate new understanding more concisely than perhaps a multiple of other representations of different types such as flow charts, diagrams or other graphics. Importantly, models are easily disseminated and can be built upon and shared with others who can build upon them, leading to new studies to answer new research questions. This is a useful approach to building and sharing understanding that will be considered in this research study.

2.6 The theoretical lens.

My research aims to build understanding of the phenomenon occurring for teachers in the context of teachers' professional learning through their action research activity. It has been a constant focus in the formulation of my research to draw together the concepts presented so far in relation to teachers' professional learning including the elements of teacher development, reflective teacher learning, collaborative team-based learning, and action research with the theoretical perspectives considered. My literature review of the extant literature, although not exhaustive, has identified that teachers' conceptual understandings and affect in relation to their professional learning outcomes are not fully understood.

Importantly, through the process of reviewing the literature, the phenomenon occurring for some teachers as the outcome of their professional learning appears to include a perspective change. A sense of having found of alignment with theorists including, Mezirow, Cranton and Taylor and King suggest to me that transformative learning theory (Mezirow, 2000) has the potential to shed light on the changes some teachers reported following their professional learning experience.

Research on transformative learning theory has enabled me to link the concepts related in teachers' professional learning to find a way forward in this research study to begin to understand the phenomenon occurring for some teachers. King (2002) has noted, transformative learning offers potential for changes in teaching and learning and in teachers' professional practice.

According to Creswell (2012), having a theoretical lens in research can provide a guiding perspective or an ideology that can inform structures or narratives within a research study. I understand a theoretical lens in qualitative research could provide ideas when deciding upon a research design (Creswell, 2012).

I have come to hold the perspective for my research design that a suitable theoretical lens, involves a focus on transformative learning theory. This lens will assist me to interpret what some teachers describe as a perspective change in connection with their professional learning that may have a transformative learning element. Transformative learning theory, used as a lens to focus and guide my research, has helped me to establish five themes as a framework for my research: Adult learning, The affective domain, Action research, perspective transformation and Transformative learning. Further shaping my theoretical lens, the work by Cranton and Taylor (2013), is a source of inspiration for my research study through their posing of questions for consideration in future research about transformative learning. Their questions have provided further direction for my research study.

Transformative learning is a complicated construct in the field of adult education with many theoretical, practical, and ethical implications. It has attracted researchers and practitioners with varied theoretical perspectives from a wide variety of practice contexts. There is also a long tradition within qualitative research of theory being central and of critical importance (Creswell, 2009). I am intrigued as a researcher to read, "Transformative learning involves liberating ourselves from reified forms of thought that are no longer dependable" (Mezirow, 2000, p. 27). This theorisation as it relates to the overall theoretical lens for my research suggests to me an interpretive and qualitative approach to explore and understand the experiences of individual teachers, to understand their adult learning through their perspectives, to gather the stories told by teachers that constitute the data in my research (Creswell, 2012) can be a description of the teachers' stories, likely with themes emerging from them. King's (2000) research linked professional learning activity with perspective transformation. "Professional development that incorporates hands-on learning, substantial content, collaborative inquiry, peer-to-peer dialogue, and reflective practice can facilitate transformational learning experiences" (King, 2000, p.5). Other theorists (Christie et al., 2015) describe a natural affinity between action research and transformative learning on the basis that both progress "through a spiral of steps" (p.17) and are triggered by a disorientating dilemma. A dilemma in professional practice potentially has the same effect as a personal dilemma for an individual. Importantly for my research, "professional development that incorporates hands-on learning, substantial content, collaborative inquiry, peer-to-peer dialogue, and reflective practice can facilitate transformational learning experiences" (King, 2000, p.5).

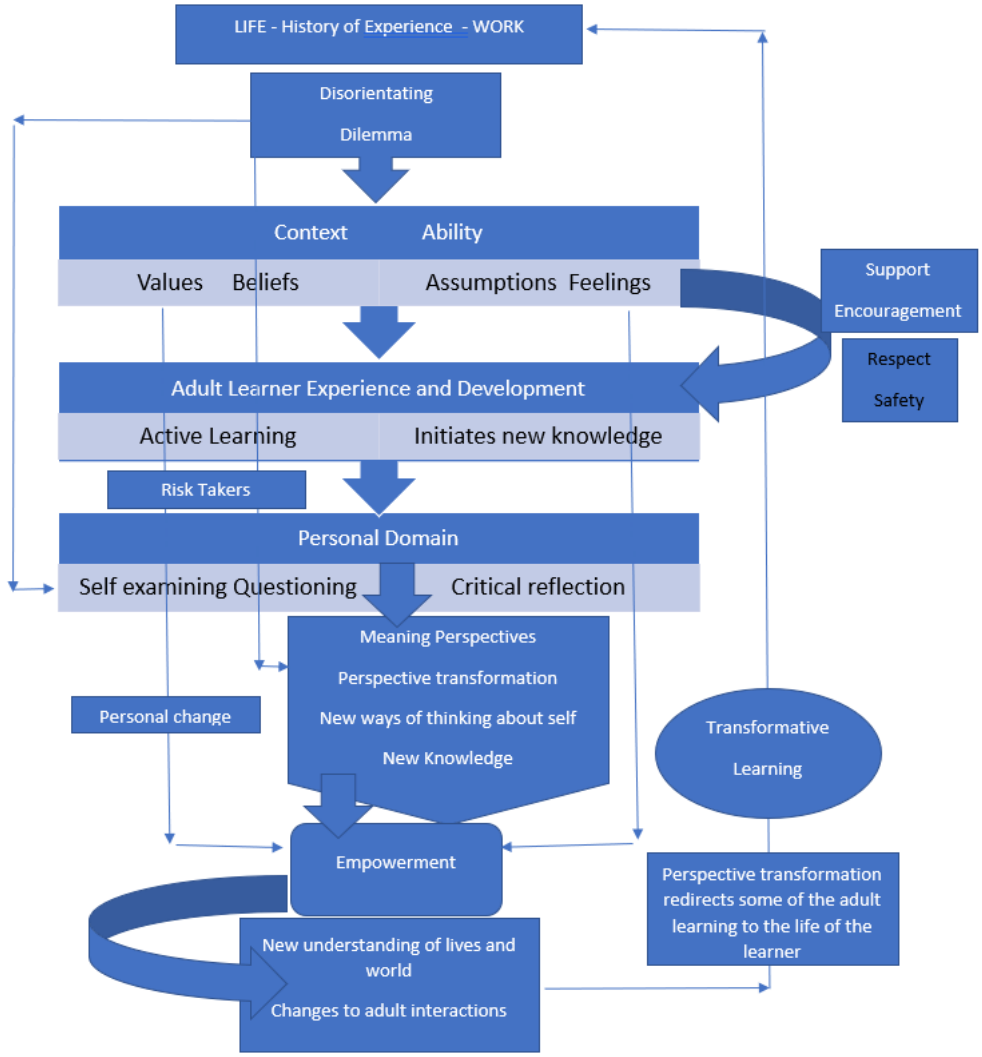
Fundamentally, transformative learning theory describes having a disorientating dilemma as the beginning in a process of transformation and this, also part of me drawing

connections within an overall theoretical lens, suggests a link to the teachers beginning their action research with a problem from their school context and working through action research to resolve the problem. The disorientating dilemmas that teachers began with in their action research could inadvertently have led teachers on a pathway to perspective change, transformation, and transformative learning outcomes.

Teachers' perspectives once gathered through my research will provide me with their insights to understand the role of their affect in any transformative learning occurring for teachers in connection with their professional learning. Although, I can begin to draw some connections and guidance from existing theoretical frameworks, it is my aim to understand rather than explain the phenomenon occurring for teachers. Figure 2.1 presents, elaborates, and explains the connections I have made in determining the theoretical lens for my research.

Figure 2.1

Flow of Transformative Process – My Theoretical Lens



By framing my research within a clearly defined field, transformative learning, the assumptions that inform my approach and my choices in methodology and research design explained in the next chapter will lay the foundation to support my analysis of the data and my interpretation of the findings.

2.7 The conceptual link.

Action research is widely accepted for its connection to practice-changing outcomes. It is believed the self-reflective process essential to action research supports teachers to rethink their practice amidst a process of self-transformation (Kemmis, McTaggart, & Nixon,

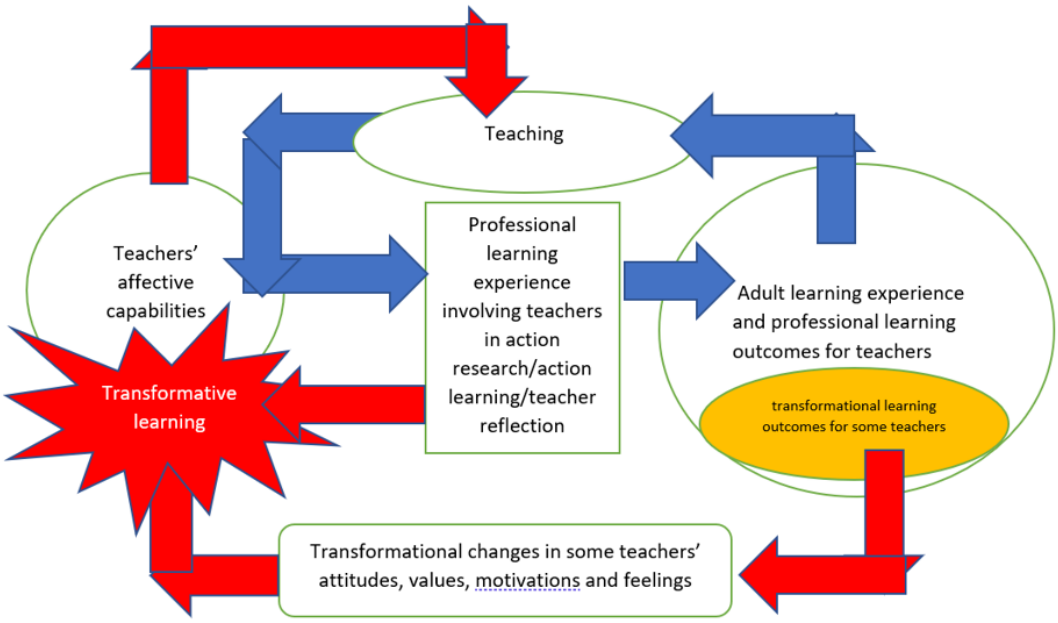
2014). The action research utilised by the teachers is a contextual feature of their professional development and it is the context for teachers' professional learning around which my research is based. Some teachers anecdotally reported their frames of reference had subsequently changed in response to their professional learning that incorporated their action research in the ISQ TAR program.

Researchers of transformative learning describe a natural affinity between action research and transformative learning including on the basis that both progress "through a spiral of steps" (p.17). and both are triggered by a dilemma in professional practice potentially having the same effect as a personal dilemma for an individual. Environmental, professional or personal factors, could trigger transformation (Christie et al., 2015).

In my research, I focus on five key areas that have become my research themes; adult learning, the affective domain, action research, perspective change and transformative learning as the literature reviewed indicates there is a conceptual link. My conceptual linking of these elements is galvanising for my research journey. Creswell (2012) says some researchers have hunches or educated guesses as to why variables might be related, educators can draw on a theoretical model, or develop a conceptual framework according to their levels of sophistication. Creswell (2012) indicates a background of variables and theory foregrounds the further development of a research study. My conceptual links are represented as conceptual framework in Figure 2.2.

Figure 2.2

The Conceptual Link Between Transformative Learning, Teacher Reflection and Action Research



2.8 Current research and new understandings.

It is not 'what' we know but 'how' we know that characterises what transformational learning encapsulates. Although a vast amount of literature exists in relation to transformative learning and much is known already about how transformative learning can be nurtured and cultivated, there is still much to be discovered.

My thesis may contribute towards a theoretical advancement in teacher learning and development from a transformative perspective by:

1. highlighting action research as a unique context of teachers' professional learning
2. building understanding from teachers' viewpoints, possible new ways, new directions or new experiences to foster teachers' professional and transformative learning
3. leading to advancements in professional learning approaches for teachers, including more emphasis on action research, to maximise teacher professional growth with a focus on transformative learning
4. contributing to the knowledge about teacher learning in the evolving field of transformative learning.

5. linking adult learning, perspective transformation and action research to the knowledge base as it relates to teachers and their development in the field of transformative learning
6. improving teachers' ability to change their practice and act as change agents taking a transformative perspective to their profession through action research
7. leading change in educational practices and for teacher education in the future
8. advancing the theorisation of transformative learning (although it is not the aim of this research to develop theory, this research could be constructive to theoretical advancement).

Transformative learning offers potential for changes in teaching and learning (King, 2002) and in teachers' professional practice. The boundaries for research in the field of transformative learning appear limitless. More research is needed in different learning situations.

In a current research, Sanchez (2018), teachers' critical reflection and strategic purposeful planning are the processes whereby transformative learning was encouraged in order to establish professional learning communities. All stakeholders involved were encouraged to take responsibility for their own professional learning with collaborative goals aimed at student success.

Sanchez (2018) completed a case study involving analysis of teachers' narrative responses on their perspectives and engagement in a literacy institute. The institute involved teachers in creating a strategic plan of action to establish professional learning communities in their school regardless of their varying backgrounds and school campuses. The institute allowed teachers to reflect, engage in dialogue and to motivate each other with the goals being to improve their teaching craft and increase achievement and development of students. Multiple parallels can be drawn between the case study context by Sanchez (2018) and the context for my research study. Sanchez (2018) described her case study as "situated within the transformative learning theoretical framework" (p.2). Sanchez (2018) reiterated that the theoretical framework of transformative learning (Mezirow, 1991) was the foundation for her research because teachers were expected to lead in their own professional learning whilst engaging in critical inquiry, at the same time they were in collaboration with their school administrators and working with other teachers. Sanchez (2018) emphasized teachers' critical reflection and strategic purposeful planning are the processes whereby transformative learning occurs and that these elements can drive professional learning communities, where all

stakeholders involved can take responsibility for their own professional learning with collaborative goals aimed at raising student outcomes. Sanchez (2018) reported the premise for the professional learning literacy institute was Mezirow's (1991) methodology involving challenging one's own thinking, rational discourse and critical reflection as these are the processes by which transformative learning arises.

Kostara and Loads (2022) suggest practices informed by transformative learning have the potential to be restorative when it can seem the heart has been removed from the education system in a market with no room for other values or guiding principles. Transformative learning theory has been modified, constructed, incorporated, debated, tested and published but it is still not fully understood. Many questions remain which inspire me to contribute in further study through research.

As a facilitator of professional learning for teachers, I aspire to bring transformational change to my work and to transform myself through engagement in lifelong transformative learning experiences. There is space to contribute through my research to "impoverished understanding of teacher development" (Kostara and Losads, 2022, p.xviii) as what is needed in the field of Education nowadays is "practical applications of transformative learning" (Kostara and Loads, 2022, p.xx). Mälkki and Raami (2002) suggest there is a need to further stimulate research and practice through studying complex, transformative processes in an increasingly nuanced manner, to allow critically reflective perspectives to develop in the theory and practice of transformative learning that are discerning and integrative.

2.9 The research questions restated.

The central research question for this study is: What are teachers' conceptual understandings and affect concerning any transformative learning following a team-based learning experience?

The research sub-questions are:

2. What are teachers' perspectives in relation to their involvement in the original action research-based professional learning?
3. What evidence in relation to affect can be gathered from teachers' reflections on their experience and their perspectives of their transformative learning?
4. Why do some teachers revise their perspective and others don't?
5. Does action research have the potential to lead to transformative learning for teachers and if so, how?

6. Do teachers experience transformative learning from their involvement in action research?

7. How do transformative learning experiences unfold for teachers?

8. What do teachers who describe changes in perspective across time, see as their transformation?

9. In what ways can action research transform teachers' sense of self?

10. How might transformative learning be fostered to promote future professional learning for teachers?

2.10 Conclusion to Chapter 2.

Theories explaining adult learning and development abound in the literature and include a vast amount of knowledge. The literature review in this chapter was not an exhaustive one but was productive for my discovery of research into transformative learning and was constructive for the identification of major themes. Five themes were identified. These are Adult learning, The affective domain, Action research, Perspective transformation and Transformative learning. The literature surrounding transformative learning theory has informed my understanding of the field. The work of other researchers was helpful to identify appropriate research methodology and was a source of inspiration for my research design and these are explained in the next chapter.

Chapter 3 METHODOLOGY AND RESEARCH DESIGN

3.1 Introduction to Chapter 3.

My ontological and epistemological assumptions informed my research methodology. I considered a range of research perspectives, to align my epistemology with a paradigm to decide the most suitable approach for my research. Philosophical traditions were important alongside my own assumptions, so the research inquiry could serve my purpose, and have credibility amongst the wider research community. I thought about my perspectives and assumptions and how they aligned with quantitative and qualitative research paradigms. I came to understand that different methods have peculiar advantages and disadvantages and that method boundaries are not conveniently sharp (Yin, 2009).

3.2 The starting point.

A review of the literature on transformative learning revealed many different approaches have been used to study the phenomenon of transformative learning including mixed methods, phenomenological models of inquiry, case study, critical ethnography and grounded theory (King, 2009). Phenomenology could support the research objective in combination with case study however, this approach would not allow me recourse to existing theory. This was important as I was already informed by existing theory about the phenomenon of transformative learning.

A qualitative approach using grounded theory design was considered for how it could meet the research objectives. Grounded theory is a "systematic, qualitative procedure used to generate a general explanation (grounded in the views of the participants, called a grounded theory) that explains a process, action or interaction among people" (Creswell, 2012, p. 21). My research inquiry is grounded in the context of teachers' professional learning through their action research with a bounded participant group, however I seek to understand, rather than explain transformative learning. My research objective to understand the phenomenon could not be served by a grounded theory approach since grounded theory is used to generate theory at a broad, conceptual level and I was not theoretically free from the influence of the existing knowledge of transformative learning.

My research study is concerned with understanding teachers' experience of perspective change and is not intended to test a stock of theory. My research draws insight from Mezirow (1991a) who defined transformative adult learning.

> Transformative learning involves an enhanced level of awareness of the context of one's beliefs and feelings, a critique of their assumptions and particularly premises, an assessment of alternative perspectives, a decision to negate an old perspective in favour

> of a new one or to make a synthesis of old and new, an ability to take action based on the new perspective, and a desire to fit the new perspective into the broader context of one's life. (Mezirow, 1991a, p. 161)

I have not been able to find any consistency in the methodological approaches used to research understanding of transformative learning. An interpretivist approach offered me the flexibility to discover teachers' views through their own reality as a product of their background experiences (Yin, 2009). I gathered some background knowledge of the theory and process of transformative learning, from my literature review, however a range of viewpoints exists and there is not a single truth. The theory is still evolving (King, 2009). My decision to take a qualitative, interpretive approach in my research study reflected the best fit to support my research objectives in the research context and in the light of the existing theory.

3.3 Ontology.

What is the reality and what counts as the truth?

Reality is subjective with multiple interpretations possible. The reality for the research study is constructed inter-subjectively and collaboratively through the teachers' accounts of their experience (the truth). Teachers' full co-operation will be critical to understanding any influence of the affective domain in transformative professional learning since it is impossible to observe a person's affective domain without it.

3.4 Epistemology.

What counts as knowledge and how do I know what I know?

I have a subjectivist epistemology driven by a desire to understand rather than explain teacher professional learning and its relation to teachers' affect. My desire to remain subjective cannot be separated from what is already known from my involvement in the professional learning with teachers. I have gained knowledge from the literature I reviewed that reduces my subjectivity in my research. How I know and understand the context of the research (the world) has potential to influence how I frame the research study (see the world) and how I interpret the data collected in the study. What I know and understand from my literature review means I am influenced by the existing theories of adult and transformative learning.

My knowledge that some teachers believed they had experienced transformative learning is the driver behind my research. I 'know' about the world of the teachers from facilitating teacher professional learning and there was an interaction between us through our common experience.

Valid knowledge, the epistemology, for this research study could be socially constructed from the teachers who participated in the professional learning activities. My knowledge is built by using qualitative techniques to understand teachers' individual meaning, perspectives, values and emotion that teachers have in connection with their professional learning. Valid knowledge comes from gathering and interpreting subjective information from teachers and the investigation of individual scenarios and meanings to discover the truth. The truth rests with the teachers and analytical investigation is required to uncover it.

I seek to understand teachers' individual experience by constructing knowledge, using qualitative data collection methods in a qualitative approach to understand teachers' experiences. I will interpret and elucidate the meaning attached to their professional learning to understand whether their professional learning was transformative, and related to their affect.

3.5 Interpretivist perspective.

According to the worldview of the qualitative paradigm, a researcher with an interpretivist perspective can view the world through the perceptions and experiences of the research participants (Thanh & Thanh, 2015). Interpretivism is inclusive and researchers with this epistemology can accept multiple viewpoints from different individuals from different groups (Thanh & Thanh, 2015). Interpretivism can be contrasted to Positivism since the positivist view seeks to explain a phenomenon while the interpretivist seeks to understand a phenomenon by uncovering the reality through participants' experiences. Interpretivism is subjective, looking for individual meaning in complex, social values, cultural structures and individual interpretations.

The interpretivist perspective supports multiple claims to knowledge. I needed to be aware of this potentiality and make explicit the choices and interpretations made during the research inquiry to show evidence of responsibility for my choices. I needed to observe moral judgement during the process and avoid personal bias throughout the research to maintain both rigor and authenticity. These and other qualities of the research will ultimately be attested by the wider research community. Interpretative validity is in my interpretivist approach by ensuring the research adequately "catches the meaning, interpretations, terms (and) intentions that situations and events have for the participants themselves, in their terms" (Cohen, Manion & Morrison, 2007, p. 135). At the core of the research, it is my objective to understand the phenomenon of transformative learning using a methodology that preserves the subjective meaning of the teachers.

> We as researchers are part of the world that we are researching, and we cannot be completely objective about that, hence other people's perspectives are equally as valid as our own, and the task of research is to uncover these. Validity attaches to accounts, not to data or methods. It is the meaning that subjects give to data and the inferences drawn from the data that are important. (Cohen et. al., 2007, p. 134)

My beliefs and interests from my interpretivist perspective are to build knowledge through the analysis and interpretation of teachers' accounts to gather their knowledge of their experience. My interpretation of their knowledge and experience emerges in my interpretation to answer the research questions.

3.6 Interpretivist approach.

A qualitative and interpretivist approach accommodated my intensely personal involvement with the research (Cohen et.al., 2007). It facilitated my search for understanding of complex social processes in adult learning through the in-depth responses of individual teachers and allowed me to understand teachers' experiences of their professional learning. An interpretivist view aligned with my subjectivist ontology and social constructivist epistemology. The philosophical stance of Interpretivism allows the exploration of teachers' conceptual understandings of their transformative learning and affect in team-based learning. Applying the interpretivist approach, I can seek out alternative explanations. My interpretive work has potential to be personally transforming for me. My interpretive process may have wider implications if the new knowledge could add to the evolving theory of transformative learning.

There were some disadvantages in aligning my research design with Interpretivism and an interpretivist approach. Specifically, the data analysis was complex with a risk that clear patterns may not emerge from the data. I considered the wrath of positivist researchers who may perceive the research as less credible and unscientific, but I also understood "interpretive validity has no clear counterpart in experimental or positivist methodologies" (Cohen et. al., 2007, p. 135). It is possible for a qualitative researcher to follow an interpretive method, to monitor the constructs of internal and external validity. Internal validity refers to the extent that the findings are supported by the data. In my research, accuracy in obtaining and representing the data through the voices of the participants was important to capture authenticity. External validity is the degree to which the research findings can be applied or generalised in other populations or contexts. This is problematic because the teachers at the core of my research are unique, complex, social beings researched through their experience in a unique professional situation. However, Cohen et. al., (2007) suggests a body of research

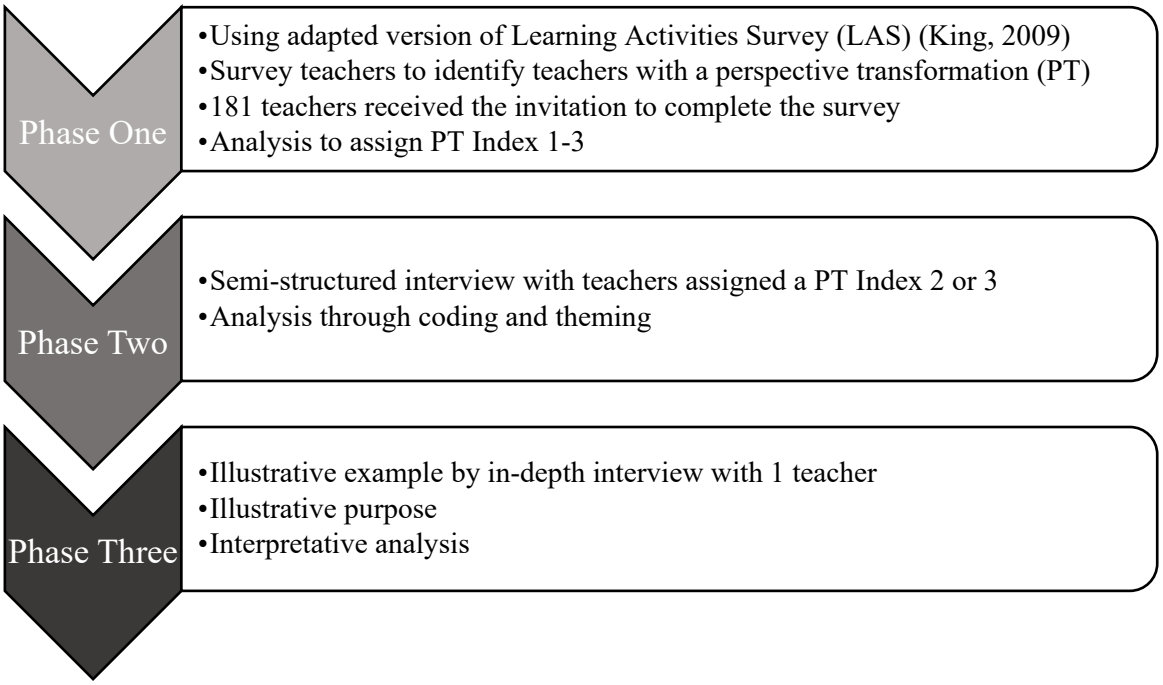
may be considered generalisable by its typicality of the research situation and that it is possible for the research to be matched to other settings or participants. Cohen et al., (2007) suggests that the overall typicality or transferability of qualitative research is not as important as it is to provide rich research data for the user of the research. My approach to external validity is in finding the teachers and the practice and school contexts in which the research may be generalisable. In the following sections, 3.7, 3.8, 3.9 and 3.10, I outline the qualitative method in the research design.

3.7 Overview of research design.

The research design has three procedural phases, each with its own method and purpose to advance the research. The data collection mode in Phase One was an electronic survey. That in Phase Two was a set of semi-structured, face-to-face interviews. The third collection mode was a study of an extended, face-to-face interview with one teacher identified through Phases One and Two as an illustrative example. The qualitative research design is summarised in Figure 3.1.

Figure 3.1

The Qualitative Method Phases 1-3



The data collected in each phase were qualitatively analysed. From the analysis of Phase One, participants were narrowed from the field of 181 invitees to the survey, to identify the participants for Phase Two. Progressively by Phase Three, one participant was deemed

most suitable as the illustrative example. My range of qualitative methods was designed to gather rich data to inform my interpretive responses to the research questions.

3.7.1 Phase One Overview.

According to Yin (2009), a survey method is advantageous when the research goal is to describe the incidence or prevalence of a phenomenon. Since, survey researchers do not carry out any experimental manipulation of the research conditions, a survey cannot explain cause and effect but instead can describe trends present in the data (Creswell, 2012). There are advantages to using a survey. Surveys can be administered in a relatively short amount of time, involve minimal cost to the researcher or the participant for the collection of data and can be sent to geographically dispersed participants. Surveys can maintain the anonymity of the respondent and can reduce bias by the researcher because the information is self-reported and reflects only what the participant thinks and not what they do (Creswell, 2012).

The survey applied in Phase One was based on the Learning Activities Survey (LAS) (King, 2009) with the questions adapted in terminology to suit the research context. The survey identified teachers who described a perspective transformation in relation to their professional learning. It distinguished those who had some experience of, or potential for, transformative learning and was a means to shortlist potential candidates for interview in Phase Two and Three. Data collected in Phase One allowed me to explore teachers' accounts of their professional learning to gather insights into any perspective transformation occurring for them. I interpreted the data for teachers' conceptual understandings of any transformational learning and noted any affective associations. The findings are presented in the next chapter.

3.7.2 Phase Two and Three Overviews.

Phase Two involved teachers who had a perspective transformation identified from their survey responses in Phase One and who consented to be interviewed (King, 2009). Participants' responses in the semi-structured interviews in Phase Two provided detailed snapshots of their personal experiences in the professional learning. Interviews were organised at times convenient for the participants and recorded in quiet locations in their school. Data was stored in individual recordings in electronic audio files. Interviews were transcribed exactly, and completely, from the recordings and stored as Word files for later analysis. Each interview transcript had some elements in common as the interview script containing semi-structured interview questions was closely followed in each interview. Participants' unique stories were explored and their extended responses to the interview questions were encouraged. Throughout the interviews, their unique and individual

experiences were recorded as these emerged naturally in the semi-structured interview situations.

In Phase Three, one teacher was identified as the illustrative example from the analysis of Phase One surveys and Phase Two interviews. An extended interview with the teacher helped me to understand more about the details of her individual experience, her contextual understanding of the phenomenon of transformative learning from the professional learning experience and how she communicated this in affective responses. The teacher's experience was described through a narrative recount in the Findings in Chapter 4 and is discussed in the Interpretation of Findings in Chapter 5.

3.8 Phase One: Survey.

3.8.1 Survey instrument.

Many researchers have utilised the Learning Activities Survey (LAS), (King, 1997), as a practical tool to identify individual experiences of perspective transformation and to find evidence of the existence and influence of transformative learning. In her handbook, *The Evolving Research of Transformative Learning*, King (2009) provides details of the LAS, how it was developed, modifications and where in the survey they can be made, instructions for its use and how the data collected can be analysed. The LAS is by all accounts, a robust and reliable instrument. It was selected as the Phase One data collection method because there is a large body of evidence in the published research reporting the LAS as a valuable data collection tool and method, both in its original and adapted forms, when used as a primary data collection tool (Caruana, Woodrow, & Perez, 2015; King, 1997, 2000, 2002).

King (2009) invites researchers to adapt her LAS survey and she provides some leads as to how others can use it. The LAS has been modified in many different research projects (King, 2009). King invites fellow researchers to build upon her LAS survey and to make modifications to her survey instrument (King, 2009). Her advice, however, is that users of the survey instrument need to understand it and the background to its design before considering modifications to it. In common with King, I wanted to gain an appreciation of the intricacies of transformative learning through educational research, so care was taken to follow the same order and type of questions as in the original LAS to maintain consistency and credibility of my survey alongside the research by others who have utilised adapted forms of the LAS (King, 2009).

The LAS is both a data gathering and analysis tool (King, 2009). It is used to collect qualitative information from the participants along with their demographic data. It has two important functions. Firstly, the survey data can be used to identify participants in a study

who have experienced a perspective transformation and secondly, a range of information can be gathered about the activities that contribute to the participants' perspective transformations. The LAS, in its original form, has four parts comprising a total of 14 survey items. See Table 3.1.

Table 3.1

The Original Learning Activities Survey: LAS (King, 2009)

Parts 1-4 & Purpose	Survey Item	Structure
1. Identifies stages of perspective transformation	1	Multiple choice
	2	Yes/No
	3	Open response (Describe)
2. What promoted perspective transformation?	4	Multiple parts with multiple choice
	5	Open response
	6	Yes/No
3. What were the activities?	7	Multiple choice
4. Collects characteristics	8-14	Demographic data tick boxes

Survey items can be adapted providing the four questions, 1, 2, 3 and 5, remain unchanged to maintain the robustness of the survey for later analysis. According to King (2009), interview questions can be extended from the original survey questions to attract further explanations as well as some examples from the survey participants. My survey served an added purpose of providing the structure for semi-structured interviews in Phase Two. This is explained later. To complete a survey, a participant answered a combination of Yes/No, multiple choice questions, open-ended questions and questions for the collection of demographic data. The first parts of the LAS were closed response and multiple-choice questions. Participants could identify with some, or all, stages of perspective transformation (PT) by selecting from phrases that directly link to the 10 stages of PT (Mezirow, 1978). The 10 stages were paraphrased in the survey beginning with "I had an experience that caused me to question the way I normally act" which suggests a disorientating dilemma and is essentially stage one in the perspective transformation process. Participants could select their survey responses from a checklist containing 13 statements where one or more of these would

describe their professional learning experience. The last of the response options in Survey Question 1 allowed a participant to select "I do not identify with any of the statements". The second part also involved closed response, multiple choice options. The survey asked which learning experience promoted PT? This information improves validity by summarising and rephrasing the information gathered in the first part of the survey. The third part involves the participant in providing their open responses. Participants could identify the learning activities they participated in and give a brief description to establish that PT was related to their professional learning experience.

The survey instrument applied in Phase One of my study was a version of the Learning Activities Survey (LAS), (King, 2009) that was adapted for application in my research with text changes applied to reflect the context for teachers and their professional learning. The process of adaptation involved substitutions of minor text changes to suit the context of the research. Added words and phrases in my adapted questions included action research, professional learning experience, action research project, educator, school and Teachers as Researchers (See Appendix D, Table D1). For example, the original LAS referred to "your educational experiences at this institution" (King, 2009, p. 20.) and this was changed to: your professional learning involving you in action research. The original LAS in Question two began with the phrase, "Since you have been taking courses at this institution" (King, 2009, p.20.) and this was changed to: During or since you participated in action research for your professional learning. Similarly, another phrase from the original LAS, "Which of the following have been part of your experience at this institution?" (King, 2009, p.22.) was adapted to: Which of the following have been part of your experience in the action research in the professional learning program?

King (2009) provides explicit guidelines, which she says are "critically important to follow" (p.35), when changes are made to the LAS. It is explained, instrument modifications can enable the LAS to be applied in specific adult education settings. Adaptations pertaining to the learning activities and some demographic questions will be required. King (2009) points out the LAS needs to be adapted with "correct options for each setting and group" and needs to "employ terms that participants would easily recognize". Her words of caution explain to not change questions in relation to the calculation of the PT-Index. This was noted when I adapted the LAS to reflect the setting and the group.

King (1997a) piloted the LAS and the instrument's reliability, and validity were confirmed for inter-rater reliability by independent coding by another researcher using multiple sources of data to confirm analysis along with member checks. There was no piloting

process before my use of the adapted survey because the adaptation I applied involved only minor word changes to suit the research context. The survey was delivered in its entirety following the order, type and where possible the exact wording of the question from the original LAS applied by King (2009). King (2009) explains the original survey instrument was validated in pilot studies by several procedures including iterative pattern of repeated sampling, successive member-checking, successive rendition, and checks by a panel of experts before the survey was again piloted in its final format. The findings from the pilot processes found the survey responses correlated and were broad and consistent. Since the items in the LAS in my research were only adapted for setting and group, there was no pilot study process applied on the adapted LAS used in my research study because King had already validated the instrument (King, 2009).

The adapted questions from the original LAS were transferred into an online survey tool: Survey Monkey. The limitations of using online survey software to design and create my adapted version of the LAS became apparent when trying to incorporate the two-part questioning that King had used in her original survey. In my adapted survey, King's two-part questions were included as separate questions and were numbered individually, increasing the total number of survey questions. In all, the numbered questions expanded from the original 14 questions in the LAS survey to 24 individual questions in my adapted version of the survey. My complete and adapted survey is provided in Appendix D, Table D2. For example, in the original LAS survey, Question 1 asked, "Thinking about your educational experiences at this institution, check off any statements that may apply" (King, 2009, p.20). This question was adapted for use in Question 2 and rephrased as, thinking about your professional learning experience involving you in action research in the project between the years 2010 and 2014, select statements from the list below that may apply to you. The original LAS survey in Question 5 asked "Thinking back to when you first realised that your views or perspective had changed, what did being in a school have to do with the experience of change?" (King, 2009, p.21) This question was adapted for use in Question 11 and rephrased as, thinking back to when you first realised that your views or perspective had changed, what did being in an action research project have to do with your experience of change in your values, beliefs, attitude, motivation or expectations?

Although questions were adapted from the original ones in the LAS (King, 2009), it was important to maintain links with the original survey design because of its connection to the 10 stages of perspective transformation (Mezirow, 1990) to facilitate the scoring of survey responses to assign the PT-Index 1-3 to each of the participants. Questions 1, 2, 3 and 5 in the

original LAS (King, 2009) are critical to the assignment of an index score for perspective transformation and the original questions were represented in my survey by Questions 2 through to 11. My scoring, analysing and use of the LAS instrument followed procedures explained by King (2009) with attention to the change in the numbering of the questions that was necessary in my survey created by the online survey tool. In the original LAS, survey responses to important questions 1, 2, 3 and 5 are the basis for identifying any personal, qualitative change in the individual respondents, that are essential for transformative learning (Mezirow, 1991a). The scale score reflected participants' responses and categorised survey respondents into groups according to whether an experience of perspective transformation occurred in connection with teacher professional learning. King (2009) assigned a Perspective Transformation Index, PT Index, scale score to distinguish three levels of possible response. Her depiction is summarised in Table 3.2.

Table 3.2

PT Index Scale Scores and their Meaning in the LAS Survey (King, 2009)

PT Index	Scale Score	Meaning
PT Index 1	1	There is no PT experience identified by the adult learner
PT Index 2	2	PT identified but not associated with adult learning
PT Index 3	3	PT identified in connection with adult learning

Note. PT = perspective transformation, PT Experience = Action research, Adult Learning = Teacher professional learning,

Participants' responses to Questions 2 through to 11, allowed me to assign PT Index scores and to separate professional learning from other life events for teachers with perspective transformation (PT).

3.8.2 Survey objectives.

There were four objectives for collecting survey data from the teachers who had engaged in action research for their professional learning. The objectives were to collect information about the teachers' experience of their professional learning, to find any who could identify with any of the stages of perspective transformation (Mezirow, 1991a) and to determine if any teacher's perspective transformation was in connection with their action research. Lastly, teachers' demographic information was collected.

Teachers with a perspective transformation were identified through their selection of one or more of the statements listed in survey Question 2 that described the stages of perspective transformation (Mezirow, 1991a) along with their responses to three other survey items that may have related. Question 2 listed 12 statements that aligned with the 10 stages of Perspective Transformation and teachers could select none or as many statements as were relevant to them in their experience of the professional learning. The statements in Question 2 as they correspond to the Stages of Perspective Transformation (Mezirow, 1991a) are summarised in Table 3.3.

Table 3.3

Survey Question 2 Association to Stages of Perspective Transformation (Mezirow, 1991a)

Stages of Perspective Transformation	Survey Item Statements	Stages of Perspective Transformation	Survey Item Statements
1 – disorientating dilemma	2a and 2b	6 – planning action	2i
2 – self-examination of feelings	2c and 2d	7 – acquisition of knowledge	2J
3 – critical assessment	2g	8 – new role tried	2h
4 – recognition of discontent	2e	9 – building of competence	2k
5 – exploration of options	2f	10 – reintegration of new perspective	2l

Survey Question 3 required participants to respond with a Yes/No response if involvement in their professional learning had influenced any changes in their values, beliefs, attitudes, motivation or expectations during or after the event. Those who provided a 'Yes' response could provide a brief explanation in their open responses to Question 4 which asked them to briefly describe what happened.

Life events can be abrupt turning points and may lead to transformational experiences (King, 2009). The survey asked three questions to determine if elements in the professional learning connected to the action research, a life change event or a combination of elements were associated with participants' perspective transformation. Questions 5, 7 and 9, explored if it was a person, the action research process or a significant life event that had influenced the

change in their perspectives. Questions 6, 8 and 10, were multiple choice questions with a range of elements for participants to select from to provide additional information about their preceding response in each case. In Question 6, participants could provide more information about the person who influenced the change in their values and beliefs. For example, their changed values or beliefs may have been due to another teacher, a school leader, their team or the project facilitator. In Question 8, participants could select from 15 multiple choices to provide more information about the aspects of the action research process that influenced the change in their values or beliefs. Question 10 provided multiple choices from a range of life events that are commonly considered significant in people's lives such as marriage, birth of a child, divorce, moving to a new house, change of employment or employer.

Other information about the professional learning activities of the teachers during their action research for their professional learning was gathered. Participants could select from a list in Question 14 to identify the activities they had completed as part of their learning experience. Question 14 listed 19 action research activities plus an option identified as 'Other' where participants could select their activities completed in the context of their professional learning. Lastly, the survey facilitated the collection of participants' demographic data in Questions 16 through to 24.

3.8.3 Survey participants.

Participants in my survey were teachers from independent schools in Queensland, Australia who had participated in the TAR program professional learning initiative and who had carried out an action research project for school-based enhancement of their professional practice to improve student learning outcomes. I forwarded surveys to all teachers who were involved in the program between 2010 and 2014, the years in which the professional learning was available.

One hundred and eighty-one teachers from 42 schools were involved in the professional learning initiative backgrounding this research. They were teachers as researchers between the years 2010-2014, investigating a research question using action research for their professional learning. Individual emails invited all of them to participate in my research via an online survey link. Individually addressed emails included an information letter about the research containing the Ethics approval number and a consent form to be signed and returned. Twenty-nine emails were undeliverable because the teachers were no longer at their respective schools and updated contact information was inaccessible. Fourteen teachers responded to the survey. The number of survey responses received was short of my aspirations. However, the 14 responses received from the 181 teachers invited to participate

was enough for me to follow the traditional pathway to transformative learning research which typically includes 3-12 participants in in-depth qualitative studies (King, 2009, p. xvi). Not all participants contributing to the survey consented to be interviewed. Survey responses from eight of the 14 participants included their signed consent to participate beyond the survey.

3.8.4 Survey analysis.

It was essential to distinguish teachers in the study who self-identified with an experience of perspective transformation, that is, with changes in their values, beliefs, attitudes or expectations from those who didn't experience perspective transformation and could not have experienced transformative learning (Mezirow, 1991a).

All survey participants were allocated a number code corresponding to the automatic number generated by the survey software in the order that survey responses were received. All survey participants were deidentified and referred to by their number. The number for each of the participants was further deidentified and replaced later by a pseudonym using initials to refer to participants in the Presentation of the Findings and Discussion Chapters. The initials were preferred over the use of survey numbers for readability in the narratives containing participants' stories and they did not reflect the participants' real names or their real initials. The Adapted LAS survey responses provided descriptions of teachers' professional learning experiences. Items corresponding to the original LAS questions 1, 2, 3 and 5 on the adapted survey gathered information from the teachers about their experiences of professional learning and any changes they believed had happened and what had contributed to any change. Participant responses to multiple probing questions were informative and an overall interpretation of the participants' experiences was easily generated.

The surveys were analysed to assign a PT Index score for each participant. The PT Index gives a code 1 for teachers who respond to the survey and who did not experience a perspective transformation, a code 2 for those teachers who do identify with a perspective transformation but it is not linked to their professional learning experience and a code 3 refers exclusively to teachers whose responses indicate a perspective transformation arising from their professional learning experience. Those with a perspective change, which was aligned in the design of the survey questions according to Mezirow's 10 stages of perspective transformation (Mezirow, 1999), were assigned a PT Index 2 or 3 (King, 2009).

Question 3 (Q3) in the survey asked, during or after your participation in action research for your professional learning in the period 2010 to 2014, do you believe you experienced a time when you realised your values, beliefs, attitude, motivation or expectations

had changed? A 'NO' response to Q3 indicated a perspective change was not associated with the professional learning.

Question 9 (Q9) in the survey asked, during or after your participation, was it a significant change in your life that influenced the change in your values, beliefs, attitude, motivation or expectations? A 'YES' response to Q3 and a 'NO' response to Q9 indicated a life event was not an influence in changing the respondent's perspective. If a YES response to Q3 was also present with a YES response to Q9, this indicated that a life changing event occurred simultaneously with the professional learning and if so, it was followed up by interview. Each survey was analysed to assign a PT Index score for each participant. Action research or life change or a combination of these were associated with the PT Index through participants' responses to questions 5, 6 and 7 in the survey. Participants assigned a PT Index 2 or 3 were the potential candidates for interview in the next phase of my research.

3.9 Phase Two: Interviews.

3.9.1 Interview design.

The interview format has a semi-structured design. Interview questions are summarised in Table 3.4. Letters have been used to list the questions as the summary in Table 3.4 differs from the full interview protocol in the numbered parts across the interview transcripts. Responses to questions were explored during the interviews with additional questions arising, so the question order and the full extent of the interview questions varied in each interview context.

Table 3.4

Summarised Interview Questions for Semi-structured Interviews

Question Identifier	Interview Questions
A	Thinking back over your professional learning and action research have you experienced a time when you realized that your values, beliefs, attitude, motivation or expectations had changed?
B	Can you briefly describe that experience?
C	Do you know what triggered the change? If so, please explain.
D	The survey included statements about possible aspects of this change. How do the statements you selected connect with your experience in the professional learning?
E	Can you help me to understand the change in your values, beliefs, expectations?
F	Which of the following influenced this change? Fa. a specific person Fb. part of the professional learning Fc. a significant change in your life Fd. something else. If so, please describe it.
G	Describe how your professional learning experience influenced the change.
H	What was most significant aspect in the professional learning contributing to your experience?
I	Thinking back to when you first realised that your views or perspectives had changed, Ia. When did you first realise change had happened? Ib. What made you aware of the change?
J	What did the teacher professional learning have to do with the change in you?
K	Did you do anything about it once you were aware this change had occurred?
L	How did/do you feel about the change in perspective?
M	Do you have any additional comments in relation to your perspective of teaching, professional learning or action research that you wish to add, in relation to how your perspective has changed?
N	Do you have any questions arising from this interview?

3.9.2 Interview objectives.

The semi-structured interviews in Phase Two of the data collection addressed my objectives to understand more about teachers' professional learning experiences and what, if anything, in their experience was suggestive of transformative learning. The semi-structured interviews allowed me to explore, through teachers' voice, their awareness of their values, beliefs feelings, and assumptions about their perspective transformation and whether they related affectively to the professional learning and any transformative learning. Participants' own words, phrases and sentences were transcribed, coded and themed to understand and illustrate teachers' conceptual understandings of any transformative learning experience and any affective relation they attributed to it.

3.9.3 Interview participants.

Eight of the 14 participants responding to the survey included their signed consent to participate beyond the survey in interviews. All eight teachers were interviewed for approximately 45 minutes in their school surroundings. The interview followed a semi-structured format similar for all teachers but modified according to their survey responses. Survey responses were explored in depth through the interviews. Seven of the teachers were assigned a PT-Index of 2 or 3. One teacher assigned a PT-Index 1 was also interviewed.

Table 3.5 summarises the demographic information for the eight participants who gave their consent and were interviewed.

Table 3.5

The Demographic Data

Participant	Gender	Age in Years	Qualification	Research Background	Position in School	National Professional Standard for Teachers
#1	Male	26-35	Master's Degree	Some experience	School Leader	Lead
#2	Male	26-35	Master's Degree	Study with research	School Leader	Proficient
#3	Female	46-55	Master's Degree	Post-graduate research	School Leader	Lead
#4	Female	36-45	Master's Degree	Post-graduate research	Head of Department	Lead
#7	Female	46-55	Bachelor's Degree	No previous research	Head of Department	Highly Accomplished
#9	Female	36-45	Post-graduate Diploma	Some action research	Subject Specialist Teacher	Lead
#11	Female	26-35	Post-graduate Diploma	Post-graduate research	Classroom Teacher	Highly Accomplished
#12	Female	46-55	Master's Degree	Post-graduate research	Classroom Teacher	Highly Accomplished

3.9.4 Interview method.

A total of eight interviews were conducted in Phase Two. Eight survey participants consented to further contact by interview in the research and three of those were determined to have a PT Index 2 or 3 from their survey responses and four of them had a PT-Index 3,

indicating altogether a perspective transformation had occurred for seven of the survey respondents. The three participants assigned a PT Index 3 had given multiple survey responses which together suggested their professional learning was transformative. Participant #12 had a PT Index 1 and would have been outside the scope of the research for further study however she gave her consent to be interviewed and was included in the Phase Two interview so I could explore all the available data to its fullest potential.

Participants were randomly assigned in the interview schedule. See Table 3.6 for the interview schedule, along with the pseudonym used to identify each participant in the analysis of the interviews. Table 3.6 includes the PT Index score assigned to each participant from the survey findings.

Table 3.6

Interview Order of Participants used for Coding and Reporting

Interview order	Participant survey number assigned automatically by survey software	Pseudonym used to refer the participant	PT Index Score (King, 2009)
1	#7	VK	3
2	#1	JA	3
3	#2	SH	2-3
4	#11	KR	3
5	#9	GA	2-3
6	#3	GL	3
7	#4	BL	2-3
8	#12	JD	1

Note. PT Index 1= no perspective transformation, PT Index 2 = perspective transformation through an event not professional learning, PT Index 3 = perspective transformation through professional learning.

Eight teachers, two males and six females, were interviewed in Phase 2 of the data collection. The teachers ranged in age and held positions as classroom teachers or teachers with some leadership roles. Teachers voluntarily participated individually in a semi-structured interview. Semi-structured interviews were conducted according to a script that formed a general outline for all interviews. The interview script was prepared to further explore the survey responses and to gather detailed information about each teacher's experience of their professional learning. It followed the order of the survey questions, so there was an element of familiarity in the interview questions for the teachers. The scripted interview questions were

contextualised for each teacher in relation to their survey responses and interview questions were added or expanded wherever possible to explore each teacher's experience in depth. The interview diverted from the script only as opportunities were presented in the participants' responses that made further questioning possible and that was relevant to explore. The interviews varied in length from 30-45 minutes. Each interview was recorded in one uninterrupted recording and recordings were transcribed exactly and in their entirety. The participants responded in their interview with varying amounts of information describing their professional learning and personal experience including information about their personal values, feelings and views. These were authentic responses expressed in the teachers' own words. The sample available for open, axial and selective coding analysis was the set of eight interview transcripts.

3.9.5 Interview analysis.

A content analysis involving the examination of the units (words, phrases and sentences) within the transcriptions was applied. Cohen et al. describes content analysis "as a multipurpose research method developed specifically for investigating a broad spectrum of problems in which the content of communication serves as the basis for inference from word counts to categorization" (Cohen et al, 2007, p. 197). The content analysis was the basis for gathering an overall interpretation from individual interview transcripts. Cohen et al. (2007) suggest there are 11 elements to be considered in the analysis of interview transcripts. The elements guided my analysis and interpretation processes. The elements are:

1. Define research questions to be addressed by the content analysis
2. Define population from which the units of text are to be sampled
3. Define sample
4. Define context of the generation of the document
5. Define units of analysis
6. Decide codes to be used in the analysis
7. Construct categories for analysis
8. Conduct the coding and the categorizing of the data
9. Conduct the data analysis
10. Summarise
11. Make speculative inferences

(Cohen et al., 2009, pp. 476-483)

3.9.5.1 Overview of the analysis.

All interview transcripts were analysed individually for insight into teachers' conceptual understandings and affect concerning any transformative learning and collectively the content was searched for teachers' insights that were common across the transcripts that revealed any phenomenon occurring for teachers.

The units for analysis of the interview transcripts were the words, phrases and sentences spoken by the teachers in response to the interview questions. NVivo software was utilised to streamline and organise the analysis process. Emerging themes arising in the interview transcripts were identified and named to draw out the features of the transcript content. Category names (nodes) were generated as information was identified in the transcript. Segments of the transcripts were assigned as evidence in support of the themes as they were established, and recorded with the nodes, within the NVivo software to record the developing analysis. Themes were generated spontaneously using an inductive approach to code the data and themes supported by the literature on transformative learning were also found and included. Themes were subsequently combined to create overarching categories in the analysis of the interview data.

The initial categories assigned using an inductive approach were: triggers to changed perspectives, references to transformation, support from others, spiritual references, personal significance, personal growth, personal evolution, new values, initial fears, gaining reassurance, engagement, early changes in values, disorientating dilemmas, challenge from facilitator and changing awareness. In a second reading of the first transcript, a purposeful approach was taken looking for categories for analysis to gain insight into the learning process, personal development, lifelong learning, social roles and opportunity. These were purposefully looked for as they are categories previously identified in research in an adult learning context and were subsequently themed into confidence, empowerment, socialisation and support (King and Wright, 2003). From the research of King and Wright (2003), other categories were identified. The categories grew to include self-esteem, confidence, insight, making sense, interactions and understanding. Other categories were added as the units of analysis were classified into categories and as the coding system developed. The smallest coding unit was a single word and the largest coding unit, classified as a single category, was up to four sentences expressed together.

Codes were applied to make the units of analysis discrete without losing the integrity of the complete interview. Codes were assigned to words in the interview transcripts to code them until the limits of induction were reached. Some codes were considered part of other

codes and the codes formed a hierarchy from specific to increasingly more generalised as codes were combined. Participants' accounts of their transformative learning experience included unique, qualitative descriptions of individual experience and my collective representation of the data led me to my overall interpretation to answer the research questions.

3.9.5.2 Coding.

Semi-structured interviews provided rich data for a detailed analysis through coding. Through an open coding process, interviews were read line by line and emerging concepts were assigned themes. Themes were relevant to understanding participants' awareness of transformative learning and their own values and beliefs. My process for coding was systematic to explore the transcripts for emerging themes and to assign meaning through an inductive reasoning process.

3.9.5.3 Coding process.

"One of the enduring problems of qualitative data analysis is the reduction of copious amounts of written data, (in this case the data contained in the interview transcripts), into manageable and comprehensible proportions" (Cohen et al., 2007, p. 475). To be qualitatively analysed, the interview transcripts needed to be analysed to find themes. Through the assignment of themes, the many words contained in the interviews were reduced into categories. "Data reduction is a key element of qualitative analysis performed in a way that attempts to respect the quality of the qualitative data" (Cohen et al, 2007, p. 475).

I reflected upon and interpreted the overall meanings in the interview transcripts through repeated stages of coding. The open coding was followed by the axial and selective coding. Child nodes were assigned to the parent nodes in the open coding to reflect the richness of the data and these were gathered into overarching categories through axial and selective coding to reflect the interrelationships in the data (Creswell, 2012).

To code the interview transcripts, each theme identified in the interviews was given a name consisting of a single word or few words. The first stage of open coding was to assign categories to the data about the phenomena being studied (Creswell, 2012). The codes included references to some theoretical constructs such as Disorientating dilemma and Revised perspectives, or areas of interest such as Triggers or Conceptual understandings. Some codes were developed from the references in the transcripts such as Action research reflections and Metaphors.

Categories for coded themes can be derived from areas of interests and be devised in advance or can describe theoretical constructs "rather than be developed from the material itself" (Cohen et al., 2007. p. 475). In my research, my attempt at developing codes from the

material itself went viral and I needed to abandon and reconceptualise my approach to coding. The inspiration for developing the themes came from my reflection on the research sub-questions and the overarching or parent node name assigned reflected a few words that connected the research question to the themes. I interpreted the themes in my answering of the research sub-questions. The parent node names from the research questions were enhanced and modified by the addition of child names for further specification of related nodes identified from within the data. For example, a parent node was identified as RQ 9 Sense of Self. This was the code assigned when an interview transcript included content relating to research sub-question 9that asked, in what ways can action research transform teachers' sense of self? The parent node, RQ 9 Sense of Self, was expanded by further child categories named as Advancing professional self, Empowerment, New actions and New perspectives to distinguish where teachers had a changed sense of self for different reasons. The child categories, called child nodes, were added in an emerging way to reflect teachers' references to changed professional practice, their changed skills, their new actions and sometimes through the expression of their new perspective as these were found within the transcripts and interpreted by me to be extensions or variations related to the theme of teachers' sense of self.

3.9.5.4 Summary of the coding process.

Coding occurred through three stages. These were open, axial and selective coding. Open coding refers to exploring the data for meanings and feelings. The open coding of emerging ideas in the transcripts and the naming of the themes was followed by axial coding. Axial coding involved making links across the themes to create summarising categories to highlight interconnectedness in participants' accounts of their experience of transformative learning. Selective coding refers to the process of drawing out the main ideas and essential themes which may or may not connect to themes already expressed in the literature (Cohen et al., 2009). Patterns in the data were identified, and codes were reduced and organised to make sense of the data in a process of structuring the codes to summarise relationships in the data. Relationships within the data were located through axial and selective coding to refine the concept-based themes to reflect the overall interpretation emerging from the data. Selective coding allowed the main essence of the themes to be identified.

The use of NVivo software facilitated my inductive process where codes for emerging themes were assigned into categories called Nodes. NVivo software is a management tool to assist, record and systematise the analytical process for increased efficiency during the coding of interview transcripts. It represents the nodes assigned to themes as a hierarchy of branching themes to show the overall relationships within the data. There is functionality in the software

for auto-analysis of the data contained in the interview transcripts however, this was not used in my analysis. NVivo did not provide any of the logic in my coding process. The coded parts of the transcripts were recorded by NVivo software for transparency of the process applied in the analysis of the data.

3.9.5.5 Creation of the codebook.

Creswell (2012) suggests a codebook is helpful to summarise the codes assigned to interview responses. A codebook was progressively developed to record the emerging coding structure and included the properties of the codes used in the coding. It served as both a guide and a reflection tool and developed as the inductive analysis of the interviews progressed. A final codebook summarised the major themes emerging from the analysis of the data and interpretation of the findings.

A codebook was created as a register of the open codes that were created and assigned to reduce the rich interview transcripts containing over 40,000 words into categorised data. It contains codenames alongside a description of the code and the codebook was used as a reference point so the codes could be applied in a transparent, systematic and rigorous way throughout my coding, analysis and interpretation of the interview transcripts. The register containing the code names for the themes found in the interview transcripts and the description of each theme is in the codebook in Table 3.7.

Table 3.7

Code Names and Descriptions

Name	Description of the Code
RQ1 AR Reflections	Teacher reflections of their action research for professional learning. Answer to RQ1
RQ9 Sense of self	Personal change and a desire to fit the new perspective into the context of one's life. Can answer RQ 9.
Advancing professional self	Teachers taking on higher studies. Professional practice and/or professional skills have changed
Empowerment	Teacher's feeling of becoming stronger and more confident,
New Actions	New actions are based on new perspectives
New Perspectives	Examples of new perspectives
RQ10 Future	Fostering TL in the future for Teachers. Can answer RQ 10
RQ2 AR Perspectives	Teachers' perspectives of action research. Answers RQ 2.
Encouragement	Examples of how teachers received encouragement
Ownership	Perspective of one's own initiative or one's own responsibilities
Support	Support from teacher leaders, facilitators
RQ3 Affect	Evidence in relation to the affective associations. Answer RQ.3
Negative Fear and insecurities	Teachers explicitly mention fear
Negative Frustration	Feeling powerless in a professional situation
Positive attitude	Teacher reflection about their attitude before, since or during the professional learning experience

Name	Description of the Code
Attitude	Specific reference to changing attitude in connection to professional learning
Positive confidence	The feeling or belief that as a teacher they can succeed.
Positive Feeling motivated	Teachers explicitly mention feeling motivated
RQ4 Revised Perspectives	A decision to negate an old perspective in favour of a new one. Part of answer to RQ4
Awareness	Specific reference to awareness. Synonym for a realisation of a revised perspective
Engagement	Specific reference to engagement
Values	Direct quotes involving talk about teacher's values
RQ5 AR Transformative	Action research has the potential to lead to transformative learning. Can answer RQ 5.
RQ6 TL Experience AR	RQ6 Transformative Learning Experience due to action research. Can answer RQ 6
RQ7 TL Unfolding	Transformative learning experience unfolding for teacher. Can answer RQ 7
Adopting new ways of acting	Teacher examples of changed values and behaviour
Disorientating Dilemma	An experience that caused teachers to question how they usually acted
Socialisation	Humans need social experiences to learn
Triggers	Elements identified as triggering new perspective

Name	Description of the Code
RQ8 TL Description	Teachers describe transformative learning. Can answer RQ 8.
RQ9 TL Conceptual Understandings	Teachers' conceptual understandings of their transformative learning
Metaphors	Examples of metaphors used in teacher explanations
Personal Reflections	Reflections shedding light on teacher's conceptual understandings of transformative learning

The coding of written data into themes was the basis for my content analysis of the interview transcripts.

3.9.5.6 Themes.

The coding of interviews commenced with ordinary themes (Creswell, 2012). These are themes that a researcher might expect are present within the data. I interpreted the data from what I already knew and from how I saw the patterns in the interview content.

The induction of new themes allowed me to group patterns in the data beyond the ordinary themes (Creswell, 2012) to respond to emerging themes and included hard-to-classify themes (Creswell, 2012). The analysis of the interview data was from a flexible perspective and was balanced by thought processes and my reflection on the themes discussed in the literature. The themes I had read about in the literature for those experiencing transformational learning included having a changed perspective of empowerment, confidence, support, self-esteem, motivation or socialisation which can be associated with change in beliefs, change in thinking or change in the way of acting in the world (King & Wright, 2003).

The themes I identified became more abstract as the analysis continued and patterns in the themes were conceptualised into increasingly more abstract codes to represent the overarching themes. The categorization according to themes (nodes) included constant comparison of the nodes to make links across the interview data.

3.9.5.7 Constant comparison.

A constant comparison method, drawing upon the work of Glasser (1992) and elaborated by Creswell (2012) "is an inductive data analysis procedure, from specific to broad" (Creswell, 2012, p. 434). Constant comparison sorts gathered data into categories, "collecting additional information and comparing the new information with the emerging categories" (Creswell, 2012, p. 434). The interviews were coded individually and analysed collectively into the emerging themes. Constant comparison occurred across the interview transcripts for emerging themes in a search for any interconnectedness in the teachers' responses to my interview questions.

The constant comparison of themes in the interview transcripts began with the analysis of one interview for the themes emerging in the transcript. Themes were assigned to the point of 'saturation' or 'exhaustion' in the first interview analysed. A second interview was analysed according to the same themes. Any new themes arising in the analysis of the second interview transcript were added to the list of themes using the NVivo software. The thematic product at each point of the successive analysis of interview transcripts was compared with that from the interviews preceding it to gain the best possible thematic fit (Cohen et al., 2007).

The constant comparison method can give rise to a theory or a model and any theory or model generated from a constant comparison method of analysis cannot claim universality or give proof of causes or properties (Cohen et al., 2007). The process of constant comparison supported the reaching of a saturation point in the search for themes within my data. Any discrepant elements arising within the data were considered for how they may have influenced interpretation of the participants' contextual understanding of their learning and the phenomena of transformative learning. The order of interviews reviewed in the comparative analysis was random and the constant comparative method continued to be applied until all interviews were analysed and coded.

3.9.5.8 Summary of interview analysis.

Analysis of the interview transcripts was the basis for the interpretation of the teachers' experience of perspective transformation. My interpretation developed throughout the data collection phases and during my analysis of the data collected. Data from interview analysis was described through narrative summaries and explored for relationships in participants' accounts of their perspective transformation and any transformative learning. Any relationships identified through coding of the data were identified. The themes emerging from the coding of transcripts were described in the summaries of individual interviews. The interview data analysis and interpretation of the major themes associated with any transformative learning occurring for the participants, supported my interpretation of teachers' affect and their conceptual understandings of their transformative learning. From the analysis of each interview transcript, the emerging themes were considered collectively to inform my overall interpretation of the data. My detailed analysis revealed major and minor themes in relation to transformative learning and these are included in the Findings Chapter 4 and interpreted in Chapter 5 to answer the research and sub-research questions.

3.10 Phase Three: Illustrative example.

3.10.1 Illustrative example objectives.

Perspective transformation and transformational learning need to be explored and described because of the anticipated complexity and uniqueness of the individual participant's experiences. An illustrative example allowed me to gather descriptions from one teacher to understand their experience of transformative learning and their affect. An illustrative example supported my objectives to socially construct knowledge by interpreting the views of one teacher. I focused on her feelings, beliefs and thoughts as these elements constitute her affective domain to understand what the teacher conceptualised as her transformative learning. An illustrative example is suitable when a real-life context is involved and when a

contemporary phenomenon is the focus of the research. An illustrative example is also suited to research situations requiring exploration and description to understand phenomena, while retaining characteristics of real life in a holistic way. It is particularly important to identify a well-bounded example as the focus of the research (Yin, 2009). According to Creswell (2012), a case study, referred to in this study as an illustrative example, is an exploration in some depth of a system that is bounded in some way such as in a research exploration of an activity, event, individual or a process that is separated out for individual analysis in the research.

The primary objective for including an illustrative example in my research study, is because one example can illuminate the phenomenon of transformative learning or illustrate it through a unique and interesting experience as an intrinsic case (Creswell, 2012). In using an example, I can portray, analyse and interpret the uniqueness of an individual in a real situation through an accessible account (Cohen et al., 2009).

My second objective associated with the illustrative example in Phase Three of my data collection was to locate the example within the larger social context of my research related to the themes emerging throughout the analysis of the data from the preceding two phases of the data collection and analysis.

3.10.2 Finding an illustrative example.

Participants' responses to the survey and the interview questions and the resulting qualitative analysis of both data sets supported the identification of one teacher as an illustrative example for Phase Three of the data collection. The teacher's unique, and deeply personal experience of perspective transformation and transformative learning highlighted the individual nature of the phenomenon of transformative learning in the context of her professional learning.

The finding of an illustrative example was not random in selection, nor was the example case identified according to any predetermined or set criteria. According to King (2009), "interview participants are usually selected via strategic or random choice from those who have experienced transformative learning" (p.19). The illustrative example case had a PT-Index 3 from her survey responses that identified her to have experienced perspective transformation and transformative learning. So, "based on the evaluation and scoring of their LAS responses, the research can identify those participants who will meet the needs of the study" (King, 2009, p.19.). The illustrative example case gave very detailed responses in her initial interview, described herself as experiencing a personal evolution, with changed values and changed behaviours. According to Creswell (2012) a researcher may "identify a case as

an object of study, for in-depth exploration based on extensive data collection" (p.465). The illustrative example case was the interviewee least coded from the analysis of her initial interview for connections to action research and this was an intrinsic difference that separated her from the other participants. The illustrative example case was the only participant who made a spiritual connection in her transformative learning. "A case may be selected for study because it is unusual and has merit in and of itself. (p.465). The selection of the illustrative example case was a strategic one based on the data collected in research phases one and two and her intrinsic points of difference revealed in connection with her transformative learning experience that were considered unusual with "merit in and of itself" (Creswell, 2012, p.465) to be the focus of the phase three exploration of an illustrative example.

The case of one teacher, used as an illustrative example, was not part of a case study, as in an overarching research method. Instead a case of one teacher who experienced perspective transformation was a part of the qualitative research design (Starman, 2013). The illustrative example focused on the teacher's experience of transformative learning with a focus on her affective associations. The teacher was studied holistically from a qualitative perspective.

Like case studies can be criticised for lack of rigor, lack of systematic procedures and for coming under the influence of biased views which can influence the interpretation of the research findings (Yin, 2009), the illustrative example could attract similar criticism.

3.10.3 Interview of the illustrative example.

The questions for the semi-structured interview process were generated from the question starters listed in Table 3.8. The full interview included some variations in questioning, prompted by the participant's responses, to uncover her unique story. An interview script was developed to suit the participant and the script went closely according to the questions in Table 3.8.

Table 3.8

Question Starters for Illustrative Example Interviews

Question Identifier	Interview Question Starters
A	Could you tell me briefly about the context of your professional learning?
B	What do you recall were the features of the professional learning for you?
C	What were your thoughts coming into the professional learning program?
D	You described changes in your perspective across time. What do you see as transformation?
E	Could you tell me more about how (x) was important to you and the transformative learning you experienced?
F	Could you tell me more about how (x) made a difference to your learning?
G	Could you talk more about how (x) facilitated your learning?
H	Could you tell me more about the personal change in you in connection with your professional learning?
I	Could you tell me more about your personal gains from the experience?
J	How conscious were you of perspective transformation occurring?
K	Could you describe your learning process?
L	How important were relationships to your learning?
M	How do you value your personal development?
N	What are your new understandings about your sense of self?

The questions delivered in the phase three interview process were semi-structured, open questions using the question starters listed in Table 3.8. The question starters were prepared in advance of the interview, and commonly asked "could you tell me more about…" There was no fixed interview script and the interview proceeded to explore lines of inquiry relevant to understanding the central phenomenon and to answer the questions in the study. The phase three interview question starters were developed to further explore and clarify in detail what the teacher had provided in her survey and phase two interview responses. Phase three of the research was intentionally building upon the data gathered in the previous phases. The question starters were generic in tone, but there was an underlying strategic focus to understand the connections the teacher made to the professional learning in relation to her transformative learning and the factors that influenced her perspective change. It was anticipated the question starters would stimulate the teacher to recall her learning experience

and her personal and professional development, so that her story could be explored in some depth. The interview question starters were developed to elicit the teacher's perspectives and conceptual understandings about her experience in the professional learning, reflections on perspective change and any evidence related to affect. Associations made by the teacher to those elements were analysed and related to the answering of research questions 1, 2, 3, 5, 6, 7, 8 and 9. As the illustrative case teacher was not hesitant to speak, she shared her detailed reflections, comfortably providing rich and detailed evidence that extended to include her conceptual understanding of her transformative learning and affect including her unique spiritual connection in her transformative learning.

3.10.4 Analysis by Narrative

It is widely acknowledged in qualitative research that a researcher needs to analyse data to answer their research question(s), (Creswell, 2012). The forming of an in-depth understanding of the central phenomenon can occur through description and thematic development (Creswell, 2012) and in my research this was completed to develop and document my narrative analysis. A description, that is detailed, is important as it can expose people, places and events in qualitative research to present a portrait of the individuals or events (Creswell, 2012). According to Creswell (2012), a description is "the easiest to start the analysis after the initial reading of the data" (p.247). "In addition to description, (and coding of the data) the use of themes is another way to analyse qualitative data" (Creswell, 2012, p.248).

A narrative can be a discussion that has no set form (Creswell, 2012). However, developing a description including the themes arising within the information can show any interconnectedness to assist reflection on how participants have changed (Creswell, 2012). Extracts of dialogue can support the assignment of themes. Examples of the language spoken during interviews including metaphors or analogies together with observations of the participant during the interview can be reported. Multiple views, tensions or contradictions expressed by the participant can provide further insight to interpret the findings (Creswell, 2012).

My Phase Three research design was informed by my readings on narrative research principles and the understanding that narrative analysis can be used in a range of research designs. To be clear, the overarching methodology in Phase Three was not narrative research, but narrative analysis was used. Narrative analysis is a qualitative procedure where the researcher collects and describes the individual's story and writes a narrative about the individual's experience. This best describes the Phase Three method. A detailed description

was written and used to explore the meaning connected to an individual's lived experience. Included in the detailed description in the narrative for the illustrative example interview was a thematic analysis looking for patterns in meaning, and applying themes to the data, according to the already identified themes from the Phase Two coding. This was an active process of analysis and my subjective experience from the Phase Two coding provided a lens to make meaning from the Phase Three interview data. A codebook, created in Phase Two, was used as a reference to deductively assign the thematic codes to the transcript in Phase Three. "Stories told in research interviews are rarely clearly bounded and locating them is often a complex interpretive process" (Riessman, 1993, p.18).

To make explicit, the different methods between Phase Two and Phase Three, the interviews in Phase Two were transcribed into lengthy scripts and the transcripts were analysed in smaller pieces through an inductive reasoning process to apply a thematic analysis and create codes against excerpts from the transcripts.

In contrast, the analysis method for the interview data in Phase Three was a narrative analysis where the distinction is made that in Phase Three it was the complete story of the individual teacher that was analysed against the themes already identified in Phase Two and so was a deductive, qualitative analysis method. In Phase Two, the analysis reduced participant interviews to a set of core themes, and in Phase Three the narrative analysis generated a core narrative grounded in the participant's story. Communicating the illustrative example for its nuances, how its commonalities related to the other teachers' experiences but also how it was a unique and intrinsic case was important in Phase Three of the research. The nuance of the illustrative example was a single core narrative as I have described it.

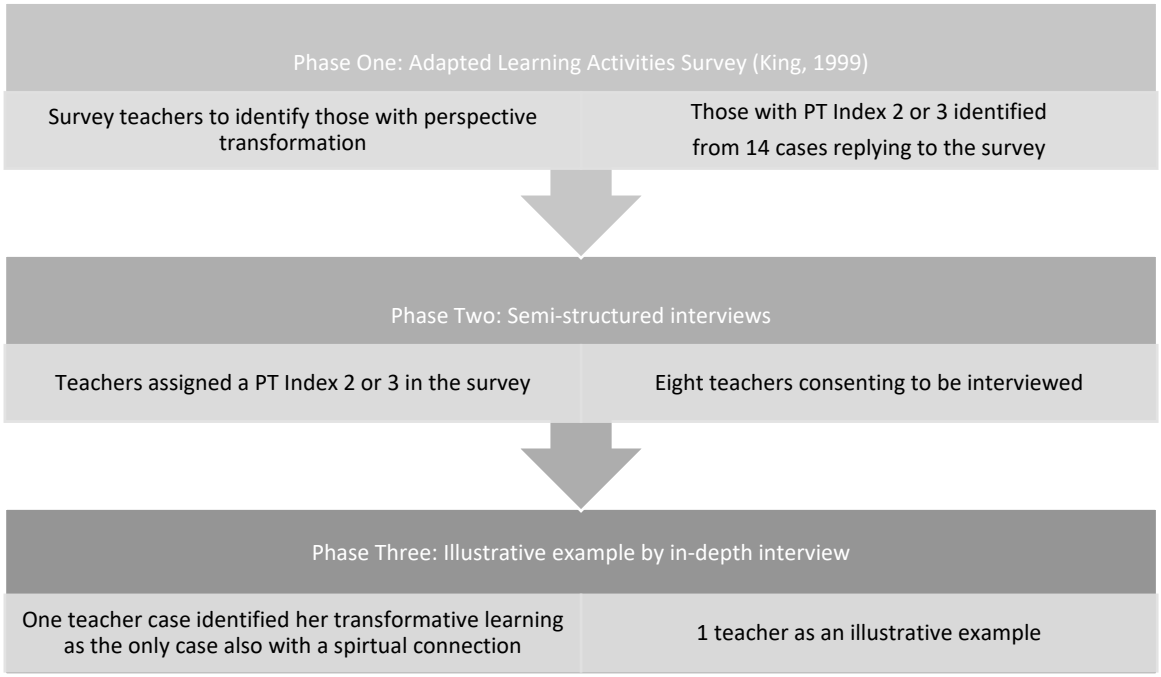
In summary, the Phase Three narrative was written to summarize the teacher's story, gathered through the semi-structured, extended interview, as an illustrative example describing her experience of transformative professional learning. The narrative discusses the themes and interconnectedness of the themes emerging in the interview, as a narrative analysis and reflects the voice of the teacher in the direct quotations from her interview. Themes assigned throughout the narrative provide the links to make meaning from the extended interview with the themes. According to Creswell (2012), "the primary form for representing and reporting findings in qualitative research is a narrative discussion" (p.254) defined as "a written passage in a qualitative study in which authors summarise in detail, the findings from their data analysis" (p.624). A narrative discussion is contained in the Findings Chapter 4 for Phase Three and interpreted for Phase Three in Chapter 5.

3.11 Summary of research phases.

The three procedural phases of the research design allowed me to identify teachers whose experience in professional learning included the phenomenon of perspective transformation. Data gathered across the three phases was analysed at each phase to inform my interpretation of teachers' conceptual understandings of their transformative learning and affect arising from their team-based professional learning experience involving action research. My procedure involved analysis of surveys for the assignment of PT Index scores, coding and theming of the interview data and description of an illustrative example to explore teachers' conceptual understandings. The three phases of the research are connected as illustrated by Figure 3.2.

Figure 3.2

The Relationship of the Three Phases in the Research Method



My assignment of themes to code and describe the data obtained from the interviews was assisted using text analysis software. A detailed analysis of rich data from survey responses and interview transcripts, allowed me to explore the transformative learning occurring for teachers following on from their perspective transformation. Survey responses and interview transcripts were analysed to interpret the larger meaning in relation to teachers' conceptual understanding and affect concerning their transformative learning in the team-based learning experience.

3.12 Conclusion to Chapter 3.

Output from the analysis of the qualitative data is presented in the Findings in Chapter 4 using flexible and emerging structures (Creswell, 2012). What teachers communicated as their conceptual understanding and affect concerning any transformative learning is synthesised through the presentation of the survey findings, interview findings and the illustrative example findings and narrative in Chapter 4. My interpretation of the findings is presented in Chapter 5 for each of the research design phases along with the significance of the findings and overall research significance.

Chapter 4 FINDINGS

4.1 Introduction.

This chapter details the findings from the survey, interviews and the illustrative example in this qualitative, interpretive study of teachers as adult learners and their experience of transformative learning. The data that was collected in each phase is reported. The presentation of data includes the findings from each of the survey questions and the findings from the coded interviews. The findings from the interviews, including those of the illustrative example interview are presented in narrative. The significance of the findings is interpreted in Chapter 5 to build an understanding of teachers' conceptual understandings of their transformative learning following their professional learning experience. Teachers' conceptual understandings and affect concerning their transformative learning is communicated in this chapter.

4.2 Phase One: Survey findings.

4.2.1 Findings for each survey question

4.2.1.1 Question 1.

Question 1 in the survey recorded participants' demographic details (name, email address and contact number) and required no analysis or interpretation.

4.2.1.2 Question 2.

Participants selected from a list of twelve statements reflecting Mezirow's stages of perspective transformation (Mezirow, 1978) as they believed the statements applied to their recalled experience of their professional learning in an action research-framed project for school enhancement. Participants could choose any and multiple statements from the list or respond that none of the statements applied to their experience in professional learning or action research. Participant's identification with a disorientating dilemma was captured in Question 2 with the statement "I had an experience that caused me to question the way I normally acted". In Question 2, participants selected various combinations of the twelve statements and 8 of the 14 participants identified with having experienced a disorientating dilemma. No participants identified with all twelve statements, however all respondents identified with at least one of Mezirow's stages of perspective transformation. Eight teachers identified with seven or more of Mezirow's stages. Three participants identified with 11, seven and eight of the statements relating to perspective transformation respectively but declined to be involved in the study beyond their contribution to the survey. One participant identified with 11 of the 12 statements and shared they did not experience a life changing event during the period 2010-2014, suggesting they would be an ideal candidate for interview

with their strong suitability for assignment of a PT Index 3 and likelihood that transformative learning had occurred for them. However, the respondent declined to be involved in the research beyond their survey contribution. Four teachers gave consent to further involvement in my research through interviews and they had identified with eight or more of the 12 statements corresponding to Mezirow's stages of perspective transformation.

4.2.1.3 Question 3.

Participants were asked if their values, beliefs or attitude had changed during their action research. They responded with a YES in 11 out of the 14 survey responses received. Three participants responded NO to Question 3 indicating their belief that they did not experience any perspective transformation. The participants responding NO to this question were assigned a PT Index 1.

4.2.1.4 Question 4.

To describe what had happened in connection with their changing values or beliefs, the participants included the following individual responses. These are extracts from their detailed responses.

I was not reflecting on my practice

I realised the importance of reflection

I developed a new perspective on responding to diversity

The project enabled me to critically reflect

I was excited to pursue the idea of research

I realised research isn't scary

Eleven participants gave extended responses in Survey Question 4 to explain their beliefs further. The extended responses from the eight participants in the survey, who were interviewed later, are provided in Table 4.1.

Table 4.1

Summary of Responses Received to Survey Question 4

Survey Participant	Extended Responses to Question 4 Summarised
#11	My commitment to building professional learning communities and the importance of action research was enhanced
#10	I realised action research led me to investigate further areas of my practice using research. I realised anyone can be a researcher and research isn't scary
#9	I was excited to pursue the idea of research further as it seems to lead to longer lasting change
#8	Since facilitating an action research project in 2010, my motivation, values and attitude changed towards teacher professional learning. The action research enabled me to critically reflect on my practice and my motivation changed
#5	The research made me realise it was appropriate and right to challenge the traditional approach to assessment
#3	It was important for me to step back and appreciate the importance of working collaboratively
#1	I realised that I was not getting the most out of my students because I was not reflecting on my practice. I realised that by reflecting on my practice I was able to tailor my lessons to meet the needs of my students
#12	(No response provided to this question)

4.2.1.5 Question 5 & 7.

Questions 5 and 7 asked participants if the change in their values and beliefs was attributed to the influence of a person or the action research process. The responses were explored further through the interviews to understand more about the connection between participants identifying a perspective transformation and the links they made to a person or the action research process. Table 4.2 summarises participants' YES or NO responses to Questions 5 and 7 and includes Question 9 responses. Question 9 data is reported in sequence in this chapter.

Table 4.2

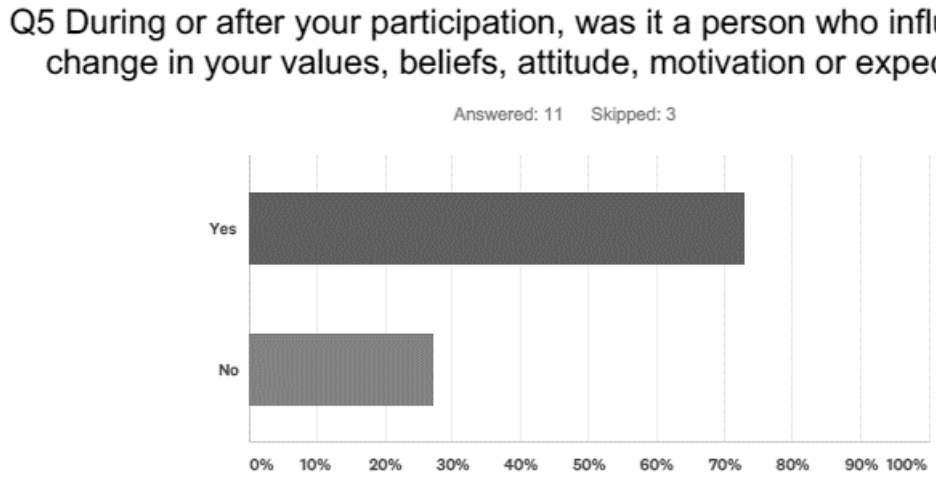
Responses to Survey Question 5, 7, & 9

Survey Question	Question Detail	Response	Frequency
Q5	Was it a person who influenced the change in your values, beliefs, attitudes, motivation or expectations?	Yes	8
		No	3
Q7	During or after your participation, was it the action research process that influenced the change in your values, beliefs, attitude, motivation or expectations?	Yes	10
		No	1
Q9	During or after your participation, was it a significant change in your life that influenced the change in your values, beliefs, attitude, motivation or expectations?	Yes	4
		No	7

Table 4.2 shows survey participants most frequently selected the action research process as the influence for the changes in their values and beliefs, closely followed by participants responding that a person influenced the changes in their values and beliefs. Only four participants responded that a significant change in life was the stimulus for the changes in their values and beliefs. Eight participants provided a YES response in Question 5 that it was a person who influenced the change in their values, beliefs, attitude, motivation or expectations (See Figure 4.1).

Figure 4.1

Screenshot from Q5 Survey Result

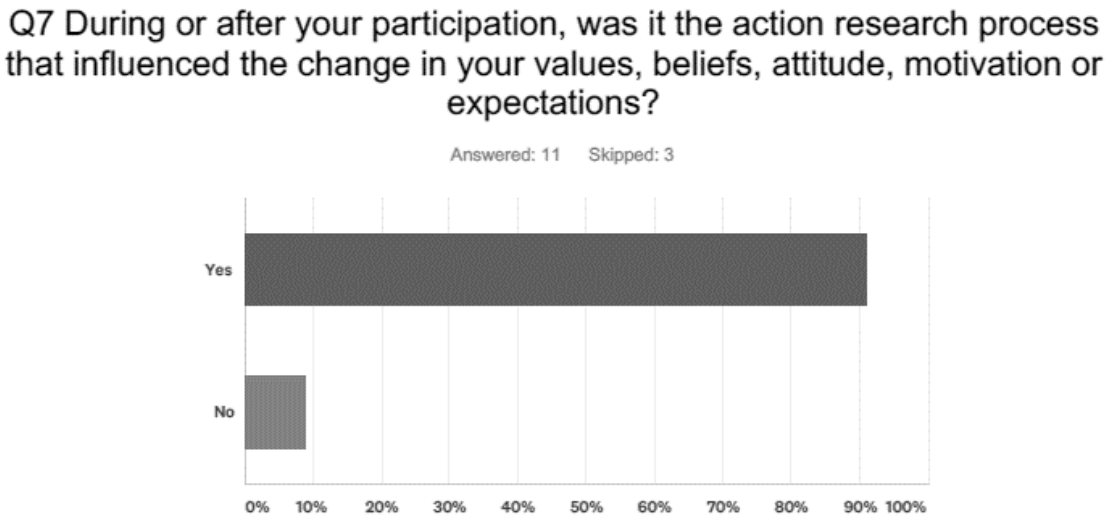


ANSWER CHOICES	RESPONSES	
Yes	72.73%	8
No	27.27%	3
TOTAL		11

Ten participants provided a YES response in Question 7 that action research coincided in some way with their realisation that their values, beliefs, attitude, motivation or expectations had changed (See Figure 4.2).

Figure 4.2

Screenshot from Q7 Survey Result



ANSWER CHOICES	RESPONSES	
Yes	90.91%	10
No	9.09%	1
TOTAL		11

4.2.1.6 Question 6.

Participants were asked in Question 6 to select from a list of possible support or challenge providers associated with action research that they believed were an influence on the change in their values, beliefs, attitude, motivation or expectations. Team support was selected in five out of eight responses to the survey (See Table 4.3). The responses to Question 6 provided the detail behind the eight YES responses to Question 5 and participants could select more than one support or challenge provider as an influence on the change in their values, beliefs, attitude, motivation or expectations. The most selected from the list were team support (five responses), project facilitator support (four responses) and other (five responses). It was common for participants to select more than one type of support or challenge provider as an influence and two participants selected four types of support as an influence naming their team support, the project facilitator challenge and facilitator support and other support as the multiple influences on the change in their values, beliefs, attitude, motivation or expectations.

Table 4.3

Survey Question 6 Responses

Person influencing the change in values, beliefs, attitude, motivation or expectations	Selection Frequency
Another teacher's support	0
Team support	5
School leader support	3
Challenge from project facilitator	3
Project facilitator support	4
Other	5

Table 4.3 shows an interesting result as no participant in the survey identified an individual teacher as the influence on their changed values and beliefs whereas it was a common response that having a team of teachers was a supportive influence. Where participants selected OTHER, two referred to themselves as they believed they supported themselves in the project and another identified a 'university facilitator' which was likely a variation in the description of the project facilitator roles since the project support and facilitation was shared by two people, an external consultant with university connections, and me.

4.2.1.7 Question 8.

The common responses associated with the 10 YES responses in Question 7, in order from most selected in Question 8 were: critical reflection (nine times selected), personal reflection (eight times selected), shared dialogue (seven times selected), the action research cycles (seven times selected) and the professional growth (six times selected). Critical reflection and personal reflection were most frequently identified as the parts of the action research process that influenced the changes in participants values, beliefs, attitude, motivation or expectations.

4.2.1.8 Questions 9 &10.

Question 9 asked participants if the change in their values and beliefs was attributed to the influence of a life event (See Table 4.2). Four participants answered YES to having a significant life event occurring at the time of their professional learning. Question 10 asked teachers what types of significant change in life occurred. The life events were associated with change in employment and employer, the birth of a child and an undisclosed 'other'

category. No participant selected death of a loved one, divorce or separation, marriage or moving to a new house which may be thought of as typically significant life events. In seven out of 11 responses to Question 9, a significant life-changing event was not associated with the change in values, beliefs, attitude, motivation or expectations.

4.2.1.9 Question 11.

Question 11 asked teachers to provide more information about the connections they could make between their changing views and perspectives and their involvement in the action research project. Teachers were asked what the action research had to do with their perspective change. Their individual responses are reflected in the following extracts from their more detailed responses:

I had evidence to support my views

I had to sustain my efforts

The team environment influenced my attitude the most

I became inspired by others as well as motivated to work hard to create change

It was the research that gave me the confidence to make changes

It allows you to work collaboratively on the problem

The action research project led me to realise how passionate I am about teacher professional learning and how much I enjoyed research and working within a team

The teamwork led to changes

I was able to be more critically aware

It affirms best practices happen, but we need to have enabling structures

Survey Question 11 asked participants to comment specifically on what they believed action research had to do with their changed values, beliefs, attitude, motivation or expectations. All responses to Question 11 indicated action research was a positive change agent and teamwork was a common theme in the responses. Some detailed responses to Survey Question 11 are summarised in Table 4.4 from the participants who were interviewed in the next phase, Phase Two.

Table 4.4

Detailed Responses to Question 11

Survey Participant	Responses to Question11
#11	It affirmed that best practices happen within our community, but we need to have enabling structures to see these best practices, to shine a spotlight on them, to question them, and need to spend more energy on the actions with greater effect on student learning
#10	I was able to be more critically reflective and objectively evaluative in the process
#9	The research itself and the teamwork all led to changes
#8	The action research project led me to realise how passionate I was about teacher professional learning and how much I enjoyed research and working within a different team of people
#5	The action research project made me do a lot of research. It was the research that gave me the confidence to make changes
#3	Motivated to see the positive results of working together as a team
#1	I had evidence to support my views and I was able to draw on research from my reading to assist me

4.2.1.10 Question 12 &13.

All 14 survey participants responded YES to being a person who thinks over past decisions. Thirteen participants responded YES to reflecting on the meaning of professional learning. Thirteen out of 14 participants described themselves as adults who usually think back over their past decisions and behaviour and who frequently reflected upon the meaning of their professional learning for themselves personally. This result suggested to me that these participants could reflect on the meaning of their professional learning and the importance of the professional learning to their practice. The aspect of their teacher reflection was explored in the interviews in Phase Two of the data collection.

4.2.1.11 Question 14.

Survey Question 14 asked participants to select elements that were part of the professional learning experience in the action research project. They selected many of the 20 elements listed. Nineteen action research activities were identified by survey respondents as

part of their professional learning experience. The most frequent selections are shown in Table 4.5. Critical reflection was most associated with the action research for teachers' professional learning in the survey responses.

Table 4.5

Frequency of Elements Selected in Survey Question 14

Answer choices	Number of responses
Critical reflection	12
Professional growth	11
Shared dialogue	11
Professional learning journey	10
Personal reflection	9

4.2.1.12 Question 15.

In Question 15, participants were asked to select from a list of seven life events, namely, marriage, birth of a child, moving address, divorce, death of a family member, change of employment or change of employer. Options also included 'something other' as a life event or the option, 'none of the options'. The list related to the period 2010-2014 in their lives coinciding with the period the teachers were involved in the professional learning. Five survey respondents selected none of the options. Five survey respondents did not respond to this survey item. Four survey respondents identified the nature of their life event, listed in the Question 10 findings. The survey result was mixed. See Table 4.6.

Table 4.6

The Survey Responses to Question 15 (Life-changing Event Occurred)

Participant	#1	#2	#3	#4	#7	#9	#11
Possible Life Changing Event During Same Period	Yes x3	Yes x2	No	Yes x3	NO	Yes x1	No

Note. x number = how many life events were identified by the participant in their survey response

4.2.2 PT Index scores.

The participants' survey responses to Questions 2 through to 11, were used for the purpose of assigning a PT Index score. Tables 4.7A, 4.7B and 4.7C. A yes (Y or +) and no (N or -) indicate my qualitative analysis of the survey responses to assign a PT Index scale score of 1, 2 or 3. Where a response was unclear or missing in the survey, the space in the table is left blank and if a possible theme was present, a theme word is included in the table to record my early reflections on the data.

In Tables 4.7A, 4.7B and 4.7C, Questions 2 through to 11 are summarised as the responses to these questions were essential to the assignment of a PT Index. Questions are coded with letters in the table to indicate what the question related to. 'P' represented a change influenced by a person, 'AR' for action research influencing the change and 'L' for a life change event that influenced a perspective change. The numbers used to code Questions 2 and 10 indicate how many statements participants identified. For example, Participant #7 selected eight of the 12 statements in Question 2. Participant #1 selected only one statement. However, the statement selected was "I took action and adopted the new ways of acting". This was important to my interpretation. In contrast, Participant #12 who selected four statements in Question 2, including "I took action and adopted new ways of acting", responded 'NO' to Question 3 that no change in values, beliefs or attitudes occurred. Table 4.7A, Table 4.7B and Table 4.7C summarise the survey question responses for participants numbered 1 (#1) through to 14 (#14) and Table 4.7A includes a key to the analysis as a guide for reading Tables 4.7A, B and C.

Table 4.7A

Summary Survey Question Responses for Participants #1-4 for Assignment of PT Index

	Analysis Guide	#1	#2	#3	#4
Q2 AR	**+**	+1	+10	+7	+8
Q3 AR	**Yes/No (Y/N)**	Y	Y	Y	Y
Q4 AR	**Keyword**		practice	research	Critical reflection
Q5 P	**Y/N**	Y	Y	Y	Y
Q6 P	**+**	+1	+5	+3	+3
Q7 AR	**Y**	Y	Y	Y	Y
Q8 AR	**+**	+4	+11	+13	+8
Q9 L	**Life Event Y/N**	N	Y	N	Y
Q10 L	**+Life Event**		+2		+3
Q11 AR	**Keyword**	Best practice	Critical evaluation	teamwork	Passion teamwork
PT Index	**1, 2 or 3**	3	2 or 3	3	2 or 3

Table 4.7B

Summary Survey Question Responses for Participants #5 -9 for Assignment of PT Index

	#5	#6	#7	#8	#9
Q2 AR	+1	+11	+8	+7	+4
Q3 AR	Y	Y	Y	Y	Y
Q4 AR	Approach	Action research	research	reflection	collaboration
Q5 P	Y	N	Y	Y	Y
Q6 P	+1		+3	+3	+5
Q7 AR	Y	Y	N	Y	Y
Q8 AR	+2	+4		+8	+6
Q9 L	Y	N	N	N	Y
Q10 L	+1				+1
Q11 AR		collaboration	research	Team environment	motivation
PT Index	2 or 3	3	2 or 3	3	2 or 3

Table 4.7C

Survey Question Responses for participants #10 -14 for Assignment of PT Index

	#10	#11	#12	#13	#14
Q2 AR	+8	+8	+4	+1	+2
Q3 AR	Y	Y	N	N	N
Q4 AR	Clarified belief	Reflection on practice			
Q5 P	N	N			
Q6 P					
Q7 AR	Y	Y			
Q8 AR	+7	+9			
Q9 L	N	N			
Q10 L					
Q11 AR	Long term view	evidence			
PT Index	3	3	1	1	1

Note. AR = Action Research, P = response is to do with influence of people, Y =Yes, N =No, + number = the number of statements selected.

Key themes I identified in the survey findings, from survey questions 4 and 11, were useful to the interview coding in Phase Two. Some words and ideas emerged as common to participants' survey responses related to reflection, collaboration, teamwork, motivation and these were noted as key ordinary themes emerging (Creswell, 2012). The key words listed in Tables 4.7A, 4.7B and 4.7C informed my early coding categories in Phase Two.

4.2.3 Overall Survey findings.

The overarching purpose of the survey was to collect information about teachers' experiences in their professional learning to understand if any perspective transformation and transformative learning had occurred for teachers in connection with that. The purpose was expressed in the four objectives for the survey: to identify any teachers with a perspective transformation, any perspective transformation in connection to their action research, any related information about their professional learning experience and teachers' demographic information to assist in the interpretation of the data. The primary objective of the survey was to identify teachers with perspective change as this is a forerunner to transformative learning. The questions linked to the assignment of the PT Index score are summarised in Tables 4.7A, B and C, showing the PT Index score that was assigned to each survey participant from their survey responses.

There were 14 surveys received and the responses were analysed to group the participants according to their experiences. The survey identified those who believed they experienced a perspective transformation and revealed that some of the teachers appeared to

have experienced transformative learning. The objective to assign a PT-Index score to each participant in the survey was achieved. From my analysis of the survey responses, the emerging themes came to be identified as Reflection, Collaboration, Teamwork and Motivation. These themes were noted as the key ordinary themes in the participants' descriptions of their professional learning experiences.

4.3 Phase Two: Interview findings.

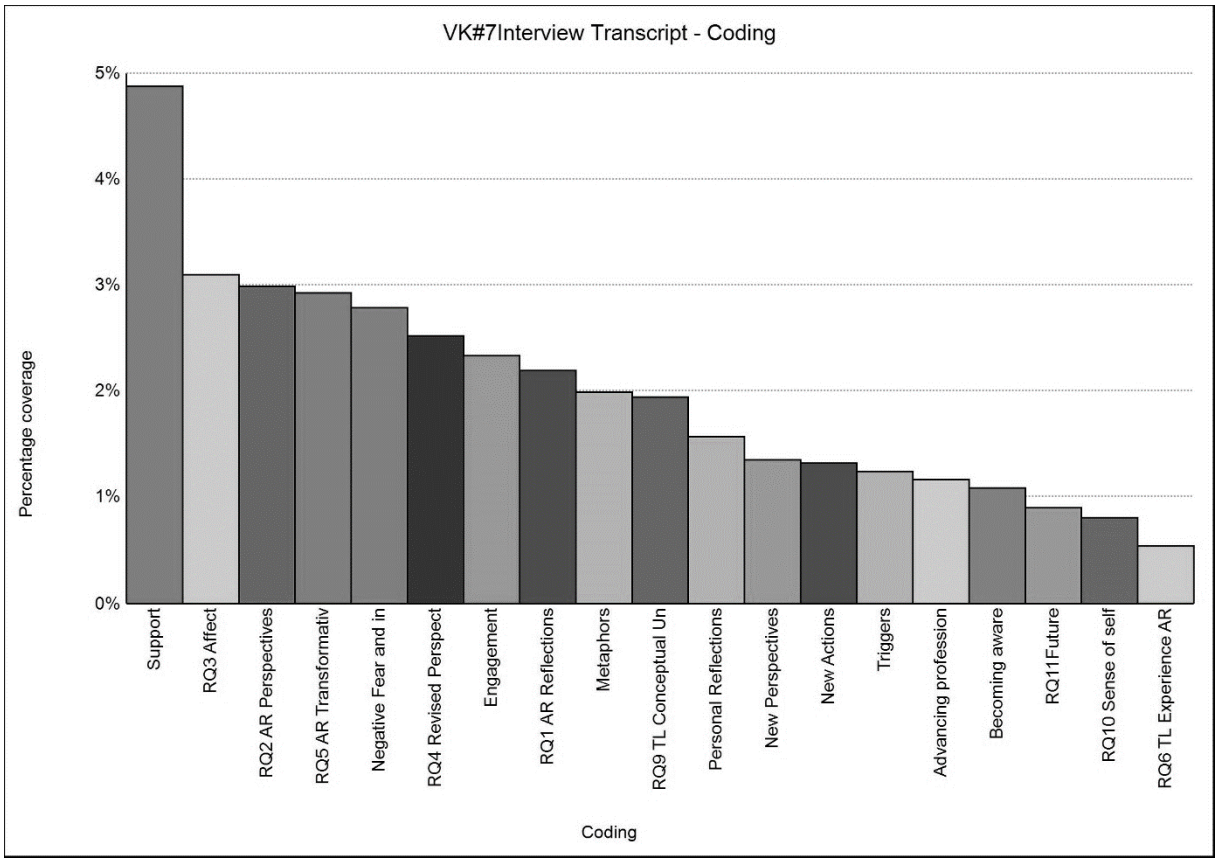
4.3.1 Findings by open coding.

4.3.1.1 Interview 1 with VK.

VK is the pseudonym for a female participant aged 46-55 years who was a Head of Faculty and a class teacher of high school students when she engaged in action research for her professional learning in 2014. She considered herself to be a Highly Accomplished Teacher according to the Australian Professional Standards for Teachers and was the holder of a bachelor's degree at the time of her professional learning. However, she had no research experience prior to engaging in the action research for her professional learning. Her survey responses were assigned a PT-Index score of 3 suggesting she had experienced a perspective transformation and transformative learning connected with her professional learning. Figure 4.3 shows the themes identified in VK's interview and these are represented in the graph of the coded theme summary from the most identified to the least identified theme in the coding. The Figures 4.3 - 4.9 depict the coverage of the themes found in the interview transcripts relative to other themes in each interview.

Figure 4.3

VK #7 Interview Transcript Coding



There were 19 themes identified in her interview transcript and the most represented themes were coded to Support and Affect. The least represented theme in her interview was in relation to her Action Research Experience.

In her interview, she described her research focus for her action research as stemming from her "common sense idea". Her pre-existing interests in growth mindset, psychology, and neuroscience were noted as forerunners to her having her common-sense idea and to her joining in a collaborative action research to investigate a different approach to assessment in her instructional subject area.

VK was a willing interviewee who gave very detailed responses to the interview questions. VK expressed herself, her realisations, her fears and her feelings of insecurities, including the changes in herself (able to listen more and letting go of that fear) in detail. She described the changes in herself as being enculturated now, "Yeah, I'm living the dream". "I've started my Masters. I'm a bit addicted to research now". "The project was transformative for me". The coding revealed the node, *Affect* had the second highest coverage in the themes identified in her interview transcript.

Her experience in professional learning was described by her as a "personal evolution", with a change in her values resulting in her changed behaviours from the new way she saw things. She described her need to go forward, by taking a good look at herself, to change the way she looked at the world. She said she had always loved teaching but loved it more now.

The personal learning journey through action research for VK was described by her as becoming more efficient with changed expectations, to refine what she was doing for her students. She believed she had changed in how she saw herself in relation to her faculty and how she saw herself as a part of a whole system. She had taken on further responsibilities to engage the faculty members in a journey together to learn and grow with a growth mindset. Her expectations around herself had escalated and changed again and again with higher and higher expectations for herself to deliver in her professional role as a teacher and as an instrumental member and leader of her faculty. She felt her changed expectations for herself had driven her decision to undertake study towards a Masters Degree. She generalised her current perceptions as being due, "absolutely, back to the teacher professional learning and action research" where she said her perspective transformation and transformative learning had occurred.

VK used metaphors in her interview to describe the changes in herself. Her school leader support was vital to her entering the professional learning project. She saw her principal as the "initial catalyst" for her following her ideas to start in the research project. She likened the process to walking on a tightrope for the first time, with the principal "holding her hand" to get her balance and the project facilitators being the pole for her to continue to balance as she walked further along the tightrope that was her collaborative action research project. The principal and the two project facilitators were likened to "a tripod", as she continued her analogy, supporting her personal endeavours in professional learning through action research. VK said the facilitators of the project helped her to "believe bigger in herself".

A variety of themes in VK's interview were identified and named in a preliminary attempt at coding the interview from the first reading of the transcript. The themes were awareness, challenge from a facilitator, confidence, disorientating dilemma, early changes in values, engagement, gaining reassurance, initial fear, learning process, new values, personal development, personal growth, personal significance, self-esteem, social roles, spiritual, support from others, transformative reference and triggers. These elements were applied as a coding structure to begin with, however the first coding attempts at a coding structure became

unwieldy. Nodes emerged initially through an unstructured coding process and became impossible to work with and hindered my progress. In a second approach to coding, VK's interview transcript was recoded using preliminary nodes developed from the research questions. The outcome of the second attempt at coding is reflected in Figure 4.3. The themes were not rigidly enforced on the coding as child nodes emerged for the interview content spontaneously as they were read, and early interpretations were made. Some elements in the transcripts were coded against multiple nodes to associate the data relevance potentially to more than one research question.

Interestingly, VK did not attribute her personal growth to the process of action research because she said she didn't join the dots very well as the process went, but she was "swimming in the action research pool". The learning she went through in the process was described by her as "phenomenal, even transformative". The conceptual idea behind the action research had a phenomenal influence on her and the idea of teachers reading and researching and collecting data and bringing research into the classroom, she described as "mind-blowing". "I didn't just read research, I engaged with research", said VK. She thought her professional growth and transformation was due to her awareness of and deep engagement with the research.

VK made many references to the support she received during her professional learning and explained how the support was vital to her success. VK shared, "I walked further along in a sense and you know those conversations we had. You know because sometimes you have an idea and you think don't be stupid. You're dreaming, this is not possible. I suppose you guys gave me the confidence to believe it was possible and that I suppose you know you, were probably, if you think of, like a tripod, you were the legs of the tripod to support the whole venture".

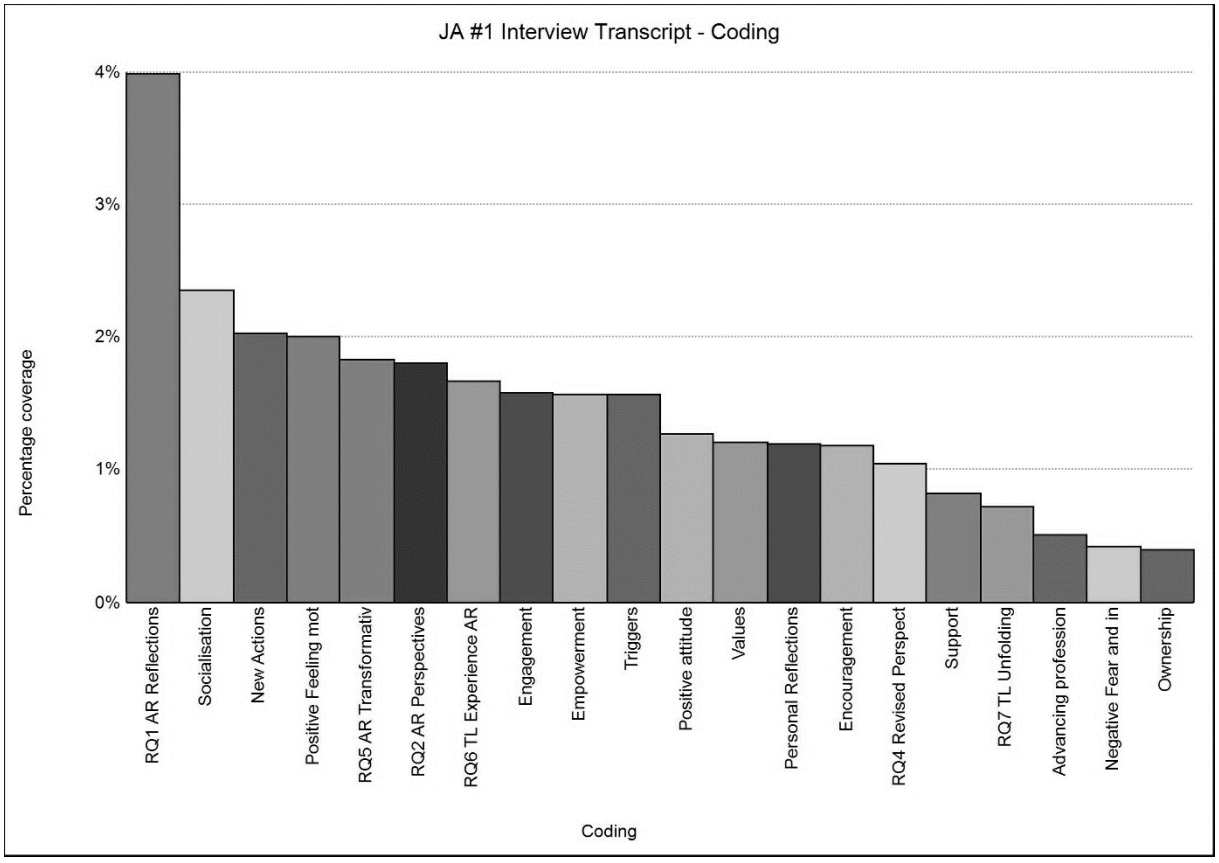
VK finished by saying her new perspective was full of joy for herself personally and professionally and that she could see a clear way forward in her professional role. She is setting up a professional learning centre at the school and has been instrumental in moving the faculty members towards a model of continual action research for their professional learning. Her engagement in the professional learning through action research was the catalyst for her changed perspective and her progress was attributed to her transformation through the professional learning.

4.3.1.2 Interview 2 with JA.

JA is the pseudonym for a male participant aged 26-35 years who was a school leader when he engaged in action research for his professional learning in 2014. He was the holder of a master's degree at the time of his professional learning and he had had some action research experience prior to engaging in the action research for his professional learning. JA considered himself as a Lead Teacher in terms of the Australian Professional Standards for Teachers. His survey responses were assigned a PT-Index score of 3 suggesting he had experienced a perspective transformation and transformative learning in connection with his professional learning. Figure 4.4 shows the themes identified in JA's interview and these are represented in the graph of the coded theme summary from most identified to the least identified theme in the coding.

Figure 4.4

JA #1 Interview Transcript Coding



There were 20 themes identified in his interview transcript and the most represented themes in his interview were coded to Action Research Reflections and Socialisation. The least represented theme in his interview was in relation to Ownership, where this theme referred to having action research perspective expressed of one's own initiative or one's own responsibilities in the professional learning experience (See the Codebook in Table 3.7).

JA had a broad way of thinking about his own learning. His reflections about the nature of his professional learning experience and his values were frequently discussed in terms of the big picture in relation to the context of his school and the other teachers he had worked with. His reflections on the action research were discussed in connection with others. His values were collective, the shared values, and he spoke of others' beliefs repeatedly. His own beliefs were somewhat more difficult for him to express directly. He thought the need for a collective language and a shared knowledge were important. He realised he had valued the action research and the opportunity to be part of a high trust environment to do inquiry research. He compared change management ideas that he seemed to know very well but said his values had changed to value action research over change management. He expressed how he had changed and referred to his changes of 'heart'.

Change management was more top down he said, and action research had helped him to be engaged as a teacher and a leader. He could see the benefits for other teachers to be engaged to share their learning with other teachers. He said the action research was empowering for teachers and all they needed was the time to tell their story. The theme of 'Socialisation' was very strong throughout JA's interview and it was evident he believed in the social experience of teacher professional learning and that this was a strong element in his transformative learning. JA elaborated on his thinking and how action research in a professional learning community, as he thought of, and described his involvement in a collaborative team, was important to him. He said his commitment to professional learning communities had changed because he had seen this feature of teachers working together in the teams in action during the professional learning. He thought action research was an organic, natural thing and he could think more flexibly about change since his action research and that was motivating for him. JA held complex, big picture views and gave multilayered responses to the interview questions. He said he liked the professional learning and that action research was a practical way of learning. His learning he said was shaped by his experience in the action research project.

He identified the support of his school leader as being important. He described himself as being a private classroom teacher earlier in his career, but that he had become increasingly professionally collaborative. The coding of JA's interview showed '*Support*' received much less coverage in his responses when compared to Interviewee VK. He spoke about others often, rather than about himself, but his broad statements were interpreted to include him as well as the others in his team. The action research process for him included keeping a personal journal, sharing the learning of teachers with the faculty and these were some of the

activities he valued, seeing them as important to his learning. JA shared his reflection journal at the end of the interview with an extensive number of pages filled with words, models and sketches. He was very reflective throughout the interview. The coding to '*AR Reflections'* throughout the interview coding reflected the most coverage across the themes that were coded in his interview.

The value of being curious was important to him. He valued being open-minded with some level of innovation and he had found ways to use his action research findings in his classroom. He said the reflection really changed the nature of the way he was learning. He was thinking in different ways. He said he had a belief that action research was going to change teachers' hearts and minds before he came to the professional learning and this, he said was reinforced by his experience in the action research. JA articulated his values explicitly during the interview whereas Interviewee VK did not.

His experience changed his values and beliefs. He described himself as more open, more curious, more willing to take risks and more willing to report back to his professional community. He said the action research was an enabling structure for him and it allowed him and his team to have a spotlight on them and enabled them all to be open-minded and curious to spend more energy on the actions for greater effect on student learning.

He talked about his 'drive' and he said drive for him was about attitude and motivation and was linked with hope. "Every time you get a barrier or a hurdle, you think how you can get past it". The facilitator for the professional learning he said had helped him with journaling, his ongoing reflection and the emphasis on small action cycles was important to him.

He reported, there was a change in his perspectives during the project and it was his realisation that action research should be part of all teachers' practice. He was excited by the power of a common language. His strong emphasis on the social nature of learning was reflected in his new actions including leading professional learning communities at his school, some of which include action research. He said his perspective about his own teaching was sometimes connected with his sense of frustration. He said he needed to be reinforced by and through his sharing of pedagogy. He affirmed his view that personal growth happens when you are part of a group, working together regularly and through professional dialogue, with a created space to design effective teaching. It was clear that JA had had a perspective transformation about many aspects of his professional practice.

JA struggled to find the words to adequately explain his own personal transformation but said it was about growth, getting to the heart of teaching, building stronger relations

between teachers and staff, working away at things that matter. He felt his leadership had grown and his sense of empowerment had grown too. He believed he felt less pressured in his role and was coping better with professional change generally.

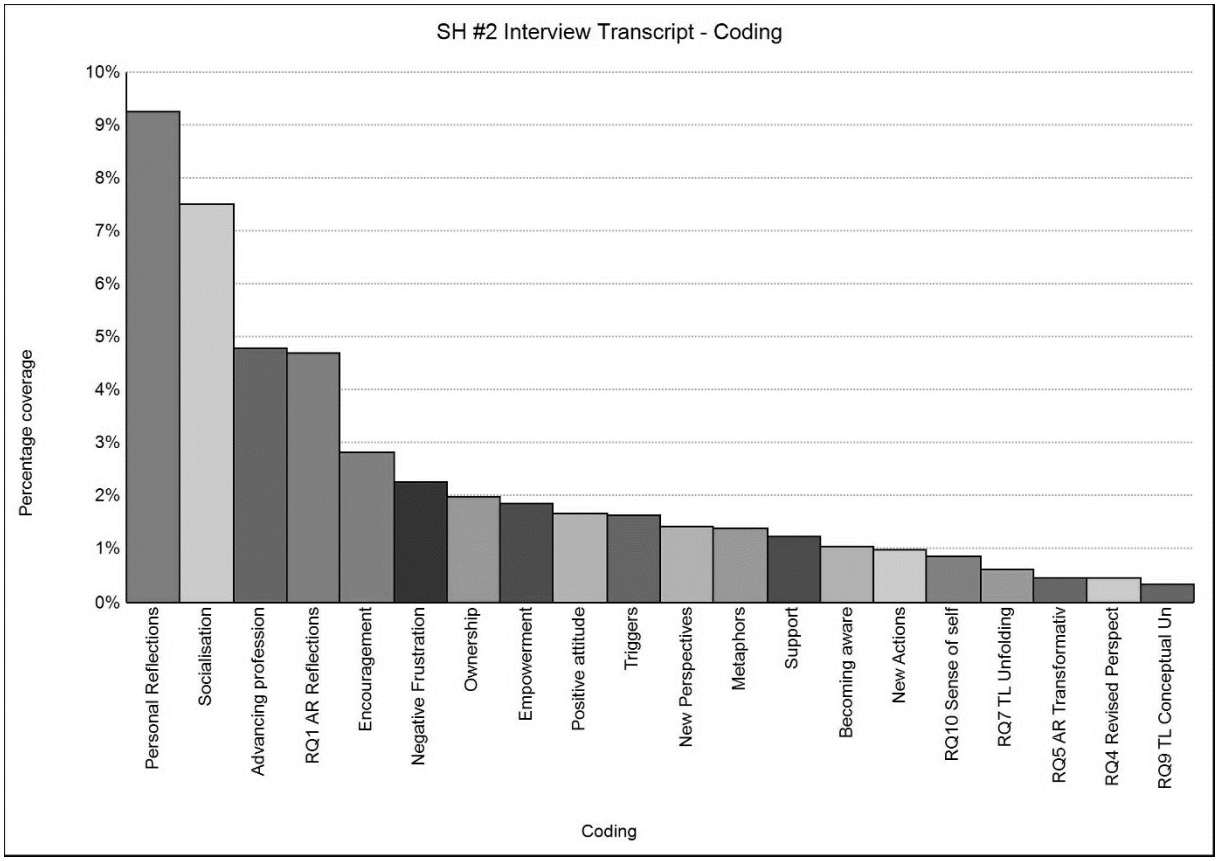
JA finished his interview with big picture summaries of what he valued. Shortly after the interview ended, he reached to access his reflective journal from the bookcase where he had stored it since his professional learning period and which he said he still referred to regularly. He began reflecting again on the strategies he had used to record his reflections and flicked the pages to reveal his sketches, mind maps, important words and thoughts and all of these seemed to hold very special significance for him as a record of his professional learning experience.

4.3.1.3 Interview 3 with SH.

SH is the pseudonym for a male participant aged 26-35 years who was a school leader when he engaged in action research for his professional learning in 2011-2012. He considered he was proficient in his teaching according to the Australian Professional Standards for Teachers at the time of the professional learning. He was the holder of a master's degree with some quantitative research experience in his tertiary studies prior to engaging in the action research for his professional learning. His survey responses were assigned a PT-Index score of 2 or 3 suggesting he had experienced a perspective transformation and transformative learning, although it was unclear initially if his perspective change was due to the professional learning. Figure 4.5 shows the themes identified in SH's interview and these are represented in the graph of the coded theme summary from most identified to the least identified theme in the coding.

Figure 4.5

SH #2 Interview Transcript Coding



There were 20 themes identified in his interview transcript and the most represented themes in his interview were coded to Personal Reflections and Socialisation. The least represented theme in his interview was in relation to his references to Conceptual Understandings. What is interesting about Figure 4.5 is his personal reflections were coded in over nine percent of the interview transcript and his personal reflections were coded in five percent of his interview showing he was highly reflective of his professional learning experience. Socialisation as a theme was coded in over seven percent of his interview.

SH shared very detailed recollections and reflections of his professional learning journey. He related his teaching context frequently and discussed how he experienced a change of mindset early in the professional learning, when he realised, he could be instrumental in making change happen. He said he thought about why he was doing things through the action research and he was philosophical about his own learning journey. He described himself as someone who questioned things when he had the opportunity to do so. His professional learning had much to do, he believed, with working in a collaborative learning community and the research carried out together as a team meant a lot to him.

SH elaborated, "the fact that we did our research as a team was a very different experience to doing research by myself and then realising that other people had the same questions as me and that we could explore that together was quite empowering and some of those people that I did that research with I would now consider to be some of my closest colleagues and friends because we kind of reached conclusions together". There were many personal reflections shared by SH. He said he realised he didn't have to know everything. He shared how he had re-evaluated some of the personal expectations he set for himself. He revealed that he changes more regularly now, and he described himself as a process-driven person who found the structured process of action research beneficial. He believed he had had a positive impact as a school leader since using the action research which had changed the way he worked. "I was certainly looking for something to ignite a bit of a conversation," he said, because he was somewhat frustrated and challenged by the lack of literature in his area of professional interest.

Personal reflection was important to SH even more since his professional learning and he explained "I'm going to put 'it's not evidence-based' on my tombstone now because I really do believe that we need to be reflecting on research, but we can't rely on everyone else to do it." He wanted to contribute a solution he felt was needed. He expressed his reflections through the many layers of his work and shared how the research and his work were related. He drew together many elements of his work and his work context to provide examples of his changed view. People were important to SH and he named team support and facilitator support as important to him. He valued the different perspectives of others and saw these views as coming together in the collective learning of the team. He explained, "It was actually quite good that we all had a different perspective while looking at the one, not problem, but the one area of need. I know they talk about that Indian proverb about the elephant being felt by the blind man and how each part feels different and I think it became very clear that each of the people in the team had different roles and different views."

SH reflected on how the facilitator had challenged his thinking but had given him the confidence to share his learning through the research with wider audiences. He felt empowered by this and likened it to a mind-switch. "I'm thinking that if somebody believes that what you have done is not just good but also good enough to help others, or empower others, that was something, it was a bit of a mind switch, you know moving beyond doing this for ourselves, or our students, to doing it for the bigger picture."

SH reflected on how his own beliefs were influenced. There were elements he described such as seeing himself as a 'driver' of staff change because he was a motivated

person by nature and willing to change the way the staff had always done things. He said the action research process gave him a process and a framework in which to work and the multiple cycles gave him ways to look at things again and again. He added, "I now use some terminology like evidence-based practice and practice-based evidence that is actually more like an infinity symbol". He believed that evidence does inform practice, but his practice does inform the evidence which he said was a similar sort of cyclical concept that he and his colleagues continue to drive forward. "All of these things hinged off knowing that we had a shared framework in which to do it", he said.

Teamwork and shared dialogue were vital in the project and became important ways of working. He really valued bringing people together and he said again that the project made that possible. He summed up that the project encouraged him, and he shared that research is part of his every day, commenting, "we can be better reflective practitioners by using a structured process like action research". He had a changed belief in himself since realising he had changed quite a bit. "I could do it. It was possibly something that I hadn't considered before. That I might contribute to the improved processes, rather than it be experts or researchers or academics. That I, being an early practitioner, somebody who is still learning, who continues to still learn could actually engage in that process and feel that I made a difference in what we were doing for our kids."

SH related a metaphor for action research as being like a marathon. "When you are at the start of the marathon you don't know what the end is like, but when you go to do the marathon again you have better expectations". He said he is better at focusing on himself now even when he engages with others. "If I look back on every bit of the journey, then participating in the project was a big part of fanning my passion and interest in research" he said. SH has commenced his Doctoral studies since the professional learning experience in action research.

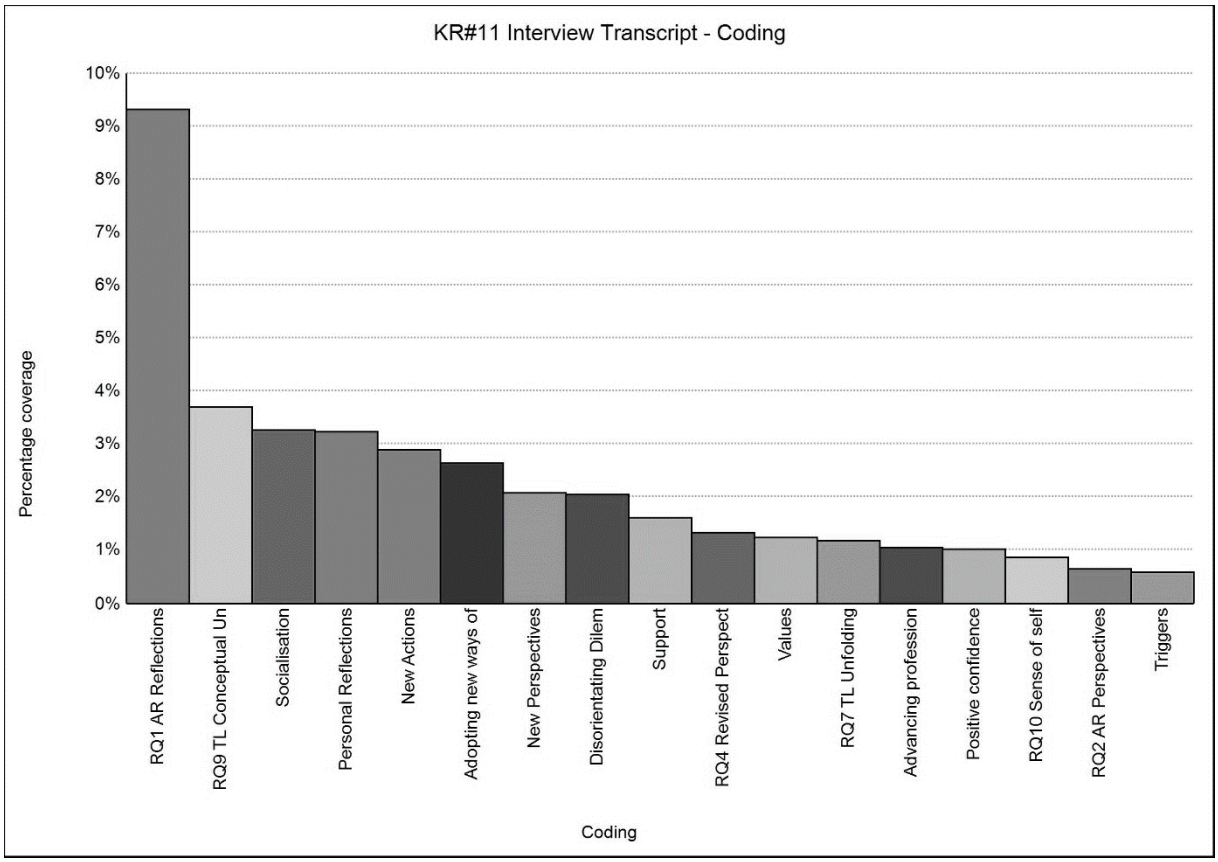
4.3.1.4 Interview 4 with KR.

KR is the pseudonym for a female participant aged 26-35 years who was a classroom teacher when she engaged in action research for her professional learning in 2013-2014. She considered she was a Highly Accomplished Teacher according to the Australian Professional Standards for Teachers at the time of the professional learning. She was the holder of a post-graduate qualification with some research experience at the post-graduate level prior to engaging in the action research for her professional learning. Her survey responses were assigned a PT-Index score of 3 suggesting she had experienced a perspective transformation and transformative learning in connection with her professional learning experience. Figure

4.6 shows the themes identified in KR's interview and these are represented in the graph of the coded theme summary from most identified to the least identified theme in the coding.

Figure 4.6

KR #11 Interview Transcript Coding



There were 17 themes identified in her interview transcript and the most represented themes in her interview were coded to her Action Research Reflections and her Conceptual Understandings. The least represented theme in her interview was in relation to her discussion of Triggers for her transformative learning. Triggers was the code name assigned to elements identified as triggering new perspectives. Figure 4.6 is interesting as it shows her reflections of her action research for her professional learning featured very strongly in her interview in over nine percent of the interview content. Personal Reflections and Socialisation featured as these themes did in the interview with SH however to a lesser extent.

KR described herself as a reflective practitioner, more informed now by the research-based evidence she gathered during her professional learning. She spoke of her beliefs and how they had changed since her involvement in action research. KR repeatedly emphasised her focus on critical reflection and how she saw herself differently as a teacher because of the practices she has adopted since her professional learning. She explained in multiple responses during her interview how her teaching in the classroom was different now because of her

reflection and her professional learning. The way she interacts now with her students has changed and she explained she seeks student feedback to inform her planning for maximum student learning. She made several references to her changed practice and attributed the changes in herself to the reflection and the journaling that she now considers ingrained as a way of working. The coding of her interview responses included over a nine percent coverage of her coded responses in relation to her reflection on the nature of her professional learning and what it has meant to her changed practice.

In her mind, she has changed from teacher-as-lecturer to teacher-as-facilitator. To transition her practice, she trialled different strategies to see how these were adopted by students and has reflected on how her students learn best. She has continued the practice of reflective journaling to reflect on her teaching of Mathematics. In many examples from her practice, KR described how she has used many elements from the teacher professional learning, including completing small action cycles in her classroom to inform her planning and teacher practice. Her perspective of her changing values was summed up by saying she felt she was ego-centric before but is now more willing to reflect and change her practice. She engages regularly in personal reflection on her technique and herself as a teacher taking account of how others may perceive her work.

She felt specific people had not influenced the changes in her, however she acknowledged it was a team effort to reach the specific professional learning goals. She explained how her interactions with her research team were supported by the program facilitators. The action research process has influenced the changes in her daily life as a teacher. She spoke of how she follows the action cycle principles of Read, Plan and Act and is now a regular reader of academic journals to inform her practice. Her different way of approaching her teaching practice and her valuing of academic literature stemmed from the professional learning experience. She has recently commenced further studies in a Masters Degree by research.

KR believes she is an independent worker and credited herself with making the changes in her values and beliefs. She really valued the support and shared dialogue with the team and really enjoyed bouncing ideas off her team members in the professional learning but throughout her interview she was clear in her belief that the professional learning experience was not the single reason her values and beliefs had changed. She expressed how her critical reflection was a skill she had developed to make meaning from her reflections and that skill was making the difference for her. Over four percent of her coded responses were in relation to her conceptual understanding of herself as a teacher and how she had changed as a teacher.

She explained how she has a different belief in the role of the teacher and what student outcomes should look like since her professional learning. Her belief about the priority of relationships in the classroom has changed. The building of relationships and relationships being first, were her beliefs influenced she said, by the collaborative team project. She described how the team members had strong personalities and how she had to develop her skills to work collaboratively with them. She has a strong belief that relationships come first before essential learnings can take place and attributed her changed view to the experience of being a part of team-based action research. Her comments during the interview also frequently included her relationship to the team and how the learning in a collaborative group was influential on her. The theme of Socialisation was represented by three percent coverage across her coded responses.

She confided the professional learning had challenged her on several levels. She admitted to not being an academic reader before the professional learning, to having felt the pressure of time restrictions and that her reflection process was only just evolving when she did the action research with her team. Her reflection was singled out by her as the most significant aspect of the professional learning. She had discovered there is a difference between observations and summarising what has happened, to engaging in critical reflection and thinking about why something matters and what she was going to do about it. She has adopted a constant cycle of reflection to inform her in her current practice.

Her perception of her changing values and beliefs was realised after her professional learning when she referred to her journal entries and realised just how much she had changed as a teacher practitioner. She felt she was more willing to make changes in her practice now and credited her awareness of her changing perspective to the different feedback that she now receives from her students.

KR said she highly valued the action research process for her professional learning and confirmed it had influenced her teaching as a classroom practitioner. It seemed KR had experienced transformative learning although she never explicitly used the term. It was clear from her interview she had changed in ways that she could not undo or would not want to reverse.

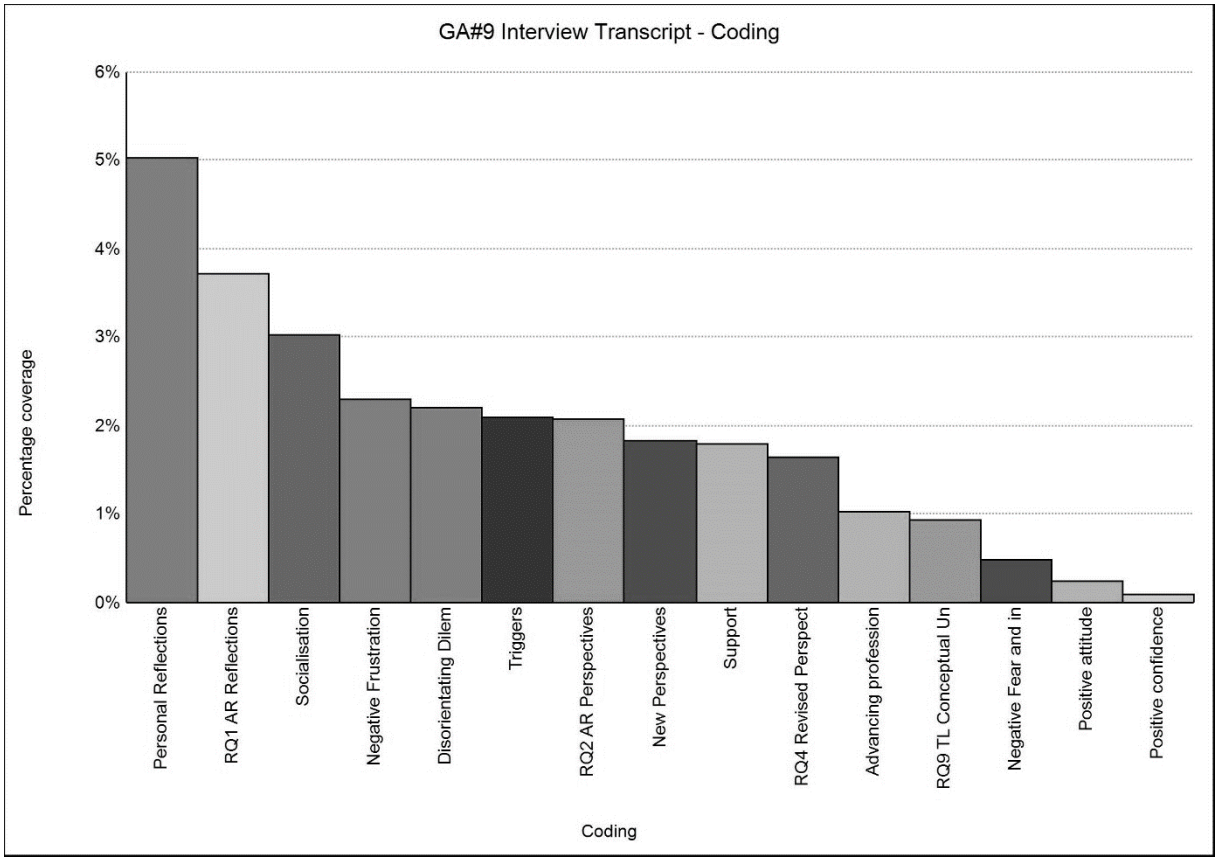
4.3.1.5 Interview 5 with GA.

GA is the pseudonym for a female participant aged 46-55 years who was a subject-specialist teacher when she engaged in action research for her professional learning in 2014. She considered herself a Lead Teacher according to the Australian Professional Standards for Teachers and was the holder of a post graduate diploma at the time of her professional

learning. She had engaged in some research through her tertiary studies. Her survey responses were assigned a PT-Index score of 2-3 as her responses suggested she had experienced a perspective transformation, although it was not clear from her survey responses if her transformative learning was due to her professional learning and action research. GA described herself as a sensitive, emotional and deeply reflective person with a big goal to work deliberately in teams in collaborative professional learning communities. Figure 4.7 shows the themes identified in GA's interview and these are represented in the graph of the coded theme summary from most identified to the least identified theme in the coding.

Figure 4.7

GA #9 Interview Transcript Coding



There were 15 themes coded in the interview transcript from GA's interview. The least represented themes in her interview transcript were positive attitude and positive confidence. In common with SH and KR, GA also spoke of the social aspects of the professional learning and how this influenced her changed perspective. The professional learning experience had presented her with more than a fair degree of challenge. The most represented themes were her personal reflections and reflections on the nature of the action research experience. Aside from the sharing of her personal and action research reflections,

which featured more strongly than the other codes, the themes of frustration, disorientating dilemma, triggers, and her action research perspectives were represented almost evenly throughout her interview.

GA had not completed action research before the professional learning, but she felt the approach was in some ways very familiar to her, from her way of working as a teacher. GA expressed how excited she was to be part of an action research journey and felt she had learned a lot about relationships and her teaching practice. She described how eager she was to move on quickly through the action research but recognised early on that it was important to make a difference as a team by working together. GA felt that some of her changing values stemmed from her frustration that other members of the team were too idealistic. She questioned her attitude and her perspectives about collaboration because she felt she may not have been modelling patience with the others and her belief in the others that they could achieve their professional learning objectives together. She was questioning her values through a process of unpacking them in relation to the team-learning context.

She recalled an incident when she could not meet with her team as anticipated and during her absence the team had changed the research question. She realised that the team did not understand the collaborative process and their research focus had shifted and become complicated in this meeting without her present. She sought some reassurance from her school leaders and went back to her team. She described how she wanted to be a team player; she wanted more shared dialogue but the strong personalities on the team were difficult for her to work with. Her interactions with her team were in some ways disorientating for her, and the team building became more of a focus for her. She valued working together but she found the teachers were more used to working in their own classrooms and had not worked together on an intellectual level. She explained how they had to build trust in each other and reduce the competitiveness. The professional learning was a trigger for a changed way of working across her school and all teachers in the team eventually reflected on the obstacles for the team and the need for them to be collaborative.

GA felt supported by the professional learning facilitators, saying their support was 'like a breath of fresh air'. She said, having their support and belief helped in restoring the overall vision for the team. GA was trying to lead teachers on a 'transformation of practice' but she explained trust was needed and it took some time for the team to build it together. The social factors of working in collaborative teams were a constant feature of the interview with GA and the Socialisation theme was the third most represented theme in the coding of her interview transcript.

Critical reflection, shared dialogue and personal reflection were identified as triggers for her personal change. She struggled to explain her feelings. She said she gained in her understanding of research and gained in confidence through the professional learning, but that reflection was handled differently by different team members. She described herself as a critical thinker, but she was not interested in writing a reflection journal.

Her ideas of trust were about being comfortable and transparent to share beliefs with others. GA thought the team came a long way together towards the end, but it had taken some effort to keep the team together as a collaborative unit. GA identified a continuous process of sharing dialogue, reflection and critical reflection as a succession of triggers overtime that shaped the team's experience and her professional learning.

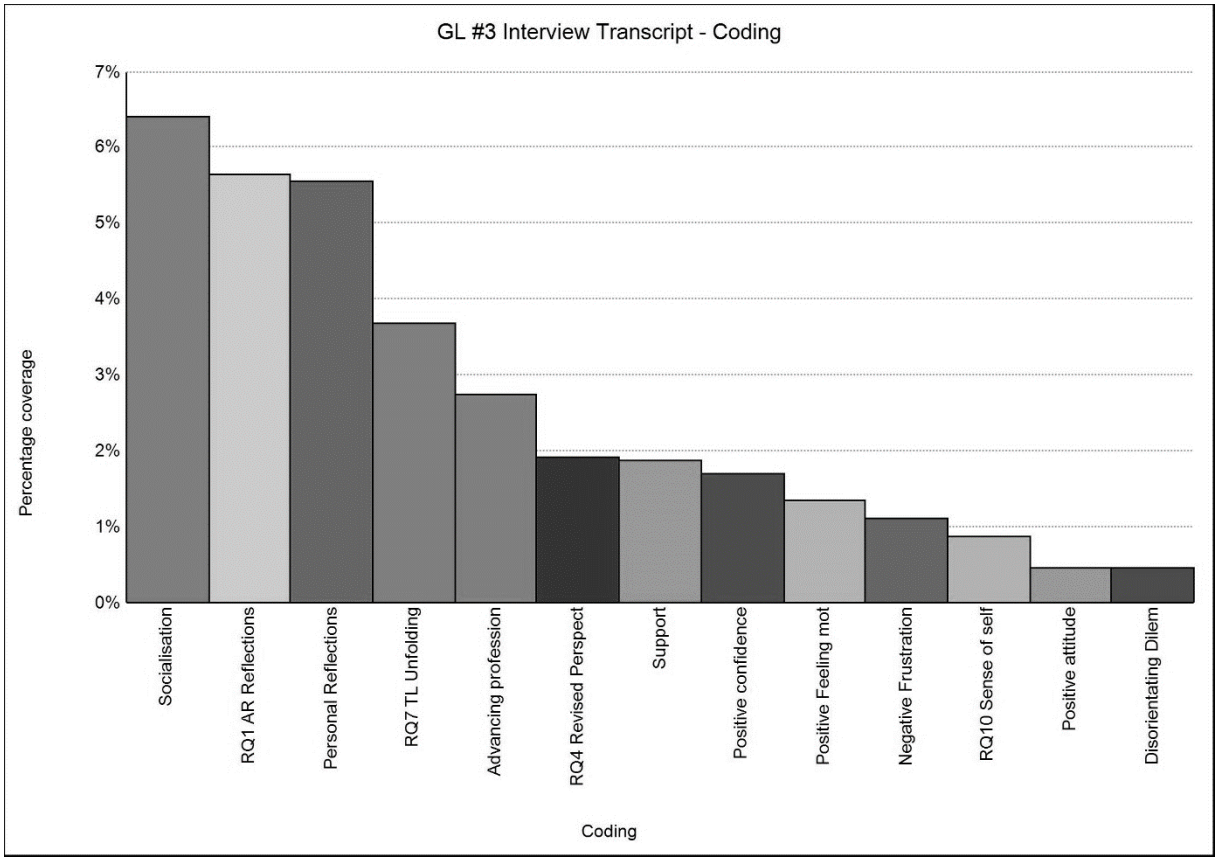
GA believes what she learned is lasting, however the team building is still a focus for her in her school. She sees trust-building as something that needs to be constantly revisited in professional learning communities. She has a belief that team work eventually gets better and that her perseverance is a quality that has been enhanced through her experience of the professional learning involving her in an action research project. She values action research for teachers but said it shouldn't just be on a special occasion but rather it should be a way of working as it is for her now, she commented. She has finished her master's degree and has applied some of her experience of professional learning communities to inform a unit of study within her coursework. The professional learning experience was life changing on many levels for her, which she agreed was transformative.

4.3.1.6 Interview 6 with GL.

GL is the pseudonym for a female participant aged 46-55 years who was a school leader when she engaged in action research for her professional learning in 2012-2013. She considered herself to be a Lead Teacher according to the Australian Professional Standards for Teachers and was the holder of a master's degree at the time of her professional learning and had engaged in some research at a post-graduate level. Her survey responses were assigned a PT-Index score of 3 as her responses suggested she had experienced a perspective transformation and transformative learning connected with her professional learning. Figure 4.8 shows the themes identified in GL's interview and these are represented in the graph of the coded theme summary from most identified to the least identified theme in the coding.

Figure 4.8

GL #3 Interview Transcript Coding



There were 13 themes identified in her interview transcript and the most represented themes in her interview were coded to Socialisation, Personal Reflections and Action Research Reflections. The least represented theme in her interview was in the references to her disorientating dilemma, that is, the experience that caused her to question how she usually acted.

GL described herself as naive about the requirements of leading an action research project as well as participating in it. She came to a realisation that everyone was not as passionate about the project as she was. She learned a lot about herself as a leader and a learner during the project. GL explained how she questioned the way she usually acted. She questioned the usefulness of professional learning delivered through a workshop mode and saw the value in teachers being involved personally in research to learn more about their practice. She said she had seen firsthand how teachers came to value their learning through action research. She was aware that she saw the action research as a different way of learning that had a practical implementation phase always supported by reflection. She believed the whole process changed her perspective about teacher professional learning a lot. Being the lead researcher gave her a thirst for doing more research.

Support from her school executive team was important to her and the support from the facilitators worked together to influence her professional learning experience and outcomes. She valued working on a team project and said the interpersonal elements influenced her the most. This was clear in the coding of her interview transcript where the Socialisation theme was the most represented in the coding with over six percent coverage. She recalled the facilitator was approachable and she felt supported because the facilitator was walking the journey with her and her team. She believed the facilitator support was crucial to her success. She was not keen on keeping a reflective journal, instead she said she spent a lot of time in her own head. Although GL did not like to write her reflections, she had many reflective thoughts to share. Her perspectives and how she believed they had changed over time made her believe her learning was transformational. The coding of her interview transcript showed reflections about the action research and personal reflections were common content in her interview transcript. She felt the most important element in the professional learning was being able to direct her own learning within the team context. The most significant aspect for her in the professional learning was being able to trial things in her own practice, to reflect on the success or otherwise of her new practices and to go back and do things again in a continuous action cycle for improvement.

GL was involved in the professional learning for teachers for two years and she critically reflected on how her practice had changed over that time. She was keen to discuss her learning journey and how she had wanted it to continue. She was also excited to get others involved and motivated to look further and to learn more.

The action research-framed project gave GL confidence that she could research a topic, work out how to implement changes in her practice and could reflect on it. The action research was her first step in a professional journey involving research and she believed it had been a profound influence on her and how she looked at research in the classroom. GL has commenced her doctoral studies in a PhD program since completing her team-based action research.

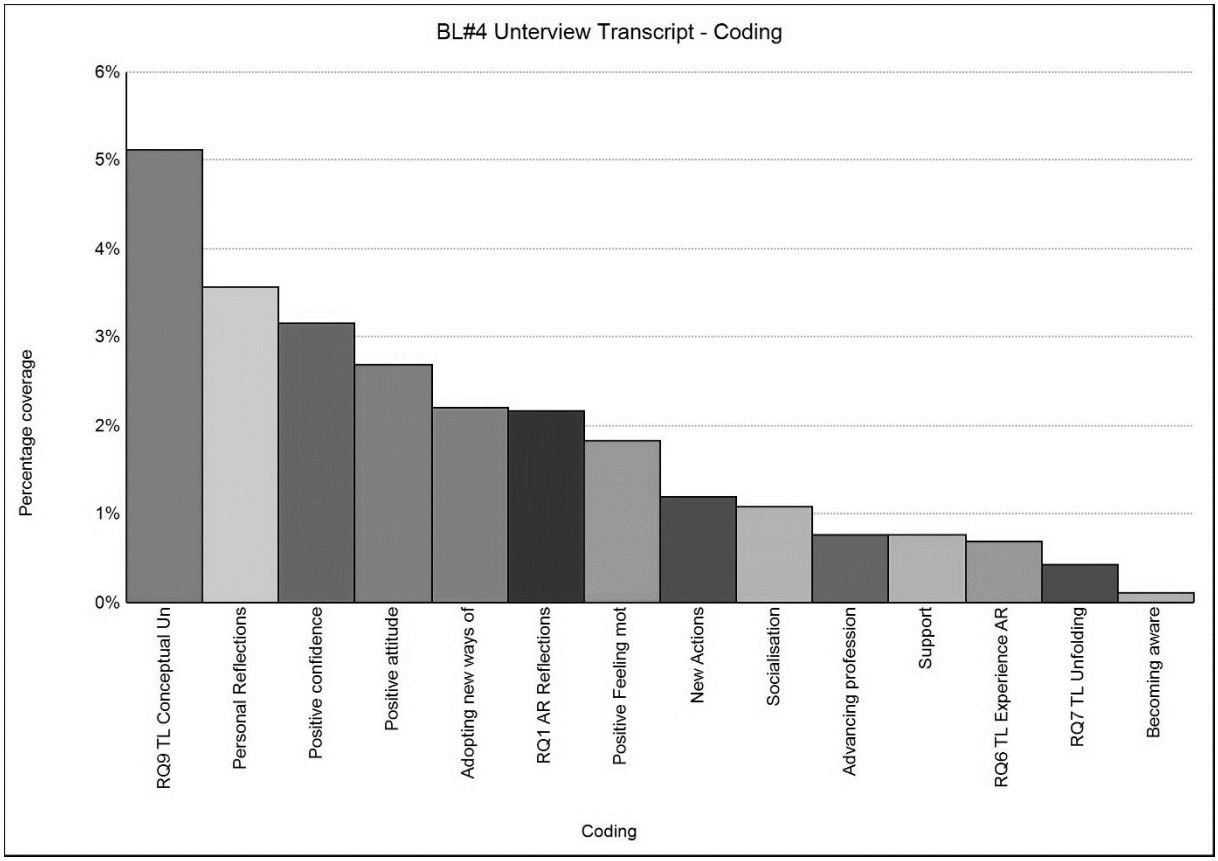
4.3.1.7 Interview 7 with BL.

BL is the pseudonym for a female participant aged 36-45 years who was a Head of Department when she engaged in action research for her professional learning in 2010, 2012, 2013 and 2014. She considered herself to be a Lead Teacher according to the Australian Professional Standards for Teachers and was the holder of a master's degree at the time of her professional learning. She had engaged in some research at a post-graduate level. Her survey responses were assigned a PT-Index score of 2 or 3 as her responses suggested she had

experienced a perspective transformation although it was not clear if she had experienced transformative learning connected with her professional learning or some other life event. Figure 4.9 shows the themes identified in BL's interview and these are represented in the graph of the coded theme summary from most identified to the least identified theme in the coding.

Figure 4.9

BL #4 Interview Transcript Coding



There were 14 themes identified in her interview transcript and the most represented themes in her interview were coded to Conceptual Understanding and Personal Reflections. The least represented theme in her interview was in relation to her Becoming Aware, which was a code used to reflect a specific reference to awareness or becoming aware to the realisation of having a revised perspective.

BL believed in action research as a learning process for teachers but admitted the strength of her feelings towards doing action research was unexpected. She loved it! Her positive attitude was infectious during the interview and presumably to her colleagues, and her confidence was also an aspect that was clear during the interview. BL was engaged in the professional learning for several years. She described what teachers had learned during the professional learning was embedded in teachers' work in classrooms in her school. Her new

learning through the action research had become embedded in her work too. This was reflected in the coding of her interview that showed the highest coverage of coding in the theme of conceptual understanding. The reflective dialogue was important to BL and she had a strong belief that her values had changed in a positive way. Professional learning communities were a focus for her in her current practice and she believed it was important to encourage teachers to think and to reflect. She realised her beliefs had changed her overarching views about herself as a teacher.

She realised she could lead change across her school in school-based projects. BL discussed how the support of the school leaders was important to her feeling motivated about the professional learning initially. Some of her understandings gained through her action research had been applied to change practices within her school. Her action research had been instrumental to her creating a model for her school using Social Learning Theory and she had developed her model to support the professional learning communities in her school. She had drawn upon her knowledge of various theoretical models to set up a school environment for teachers to share their stories in an authentic way. Her research had a practical context for her in her school and research in practice was her new way of being. She had succeeded in developing an environment of trust for professional learning in her school using reflective dialogue. She made it clear that her delivery of professional learning in her school was from the new conceptual understanding she had gained from her own action research experience. She was interested to understand authentic learning and wanted to deliver authentic learning for the teachers in her school to get authentic results.

Specific people influenced her during the professional learning experience. However, her own deep learning played an important part in her transformation. Team support was important to her to help her think deeply about her own learning and it continued to influence her beliefs. Her deep learning influenced how she saw herself as a learner and as a teacher. She has commenced her doctoral studies researching the professional growth of teachers with a focus on how to question teachers, so they could experience their own deep learning. Her action research was a trigger for her PhD.

Action research processes influenced her changing beliefs. She began by questioning her assumptions, asking herself questions like, where was the evidence for that? The teamwork, writing about the research problem, the shared dialogue and reflection were some of the elements that she found value in. The shared dialogue was important to the critical reflection process within her team. BL had her research folders and resources in handy access

and she got up in the middle of the interview to retrieve her evidence. She said she still used the resources regularly in her work.

BL believed her values had changed from the professional learning experience but said a life changing event was interconnected. She said she had thought about this and thought the influences were combined in her changing her beliefs. The life changing event for her was her work towards achieving her Doctorate. The action research had given her confidence to lead a department and a sense of her own growth and confidence had influenced her to take on further research. She said if she hadn't been involved in the action research there was no way that she would have considered enrolling in a higher degree program. Her further studies were continuing her professional learning and she remained focused on making change happen at her school.

She described her passion for action research as "absolutely loving it!" She spoke of how her professional learning experience left her feeling motivated and that she saw research as an aspect of her day-to-day work now and held aspirations for using research in more ways in her work in the future. She explained the facilitator influence was hugely significant for her. She related the face-to-face meetings with the facilitator to helping her believe in herself and her ability to lead projects. Her experience in the professional learning was associated by her to having a changed attitude and increased motivation because the facilitator had confidence in her. The facilitator encouraged her, and her attitude had shifted because she saw herself now in a brighter and bigger light. BL believed her values changed during the project. Her interest moving forward was focused on encouraging teachers to join in professional learning communities at her school and she felt that she had been successful in establishing a new culture of professional learning in her school.

BL has developed many projects in her school that she believed stemmed from her changed perspective. She said she was innovative in her approach initially, but knew it was important to listen to the teachers' voices to get the 'buy-in' she wanted to see from her colleagues. Her changed perspective about herself as a teacher had changed the way she works with both students and teachers. She believed the concept of a transformation best described the experience for her because she had totally changed the way she goes about her work with teachers. Her perspective on her learning, was no longer easy to separate in her mind from her professional learning through action research through to her higher degree studies. She had set herself goals to use more action research in her school in the future.

4.3.1.8 Non-coded interview 8.

JD is the pseudonym for a female participant aged 46-55 years who was a classroom teacher when she engaged in action research for her professional learning in 2013-2014. She considered herself to be a Highly Accomplished Teacher according to the Australian Professional Standards for Teachers and was the holder of a master's degree at the time of her professional learning. She had engaged in some research through her tertiary studies. Her survey responses were assigned a PT-Index score of 1 as her responses suggested she had not experienced a perspective transformation, or any transformative learning connected with her professional learning.

Her survey responses included that she had questioned her ideas, but she still agreed with her beliefs or role expectations. JD was not in scope as a candidate in my research study after her survey responses revealed a PT Index score of 1. However, the very small number of completed surveys received overall, influenced my decision to include JD in the interviews as she was the only consenting survey respondent who did not receive a PT Index Score of 2 or 3. JD presented a unique opportunity to explore an isolated variation in the data to understand more about her experience if no perspective transformation had occurred for her in relation to her professional learning.

JD explained she questioned her knowledge early in the professional learning. "I think it was, I didn't have the answers to some of the probing questions and at that moment I expected I should have". She also acknowledged that team members in the research shared different ideas and values to hers initially but did not believe that her values, beliefs, attitude, motivation or expectations had changed because of her involvement. She generalised about her initial beliefs as a classroom teacher. "We started with what I thought was a clear idea that I will do it this way and they'll respond in that way, and I set this environment up and that will be the impact I'll have. So, I had that very fixed in my mind but, as is the nature of working with children it very rarely stays that way, so I found it made me question. Well, have I got this right? And if I had that wrong initially, then have I got other things wrong and maybe I need to just do that deep thinking all the way along that process and make sure I haven't missed something else. And so that made me re-evaluate how I dealt with them in the classroom."

JD spoke about her reflection and her questioning of her own ideas and these elements were explored with her to the point that it seemed she could have experienced a disorientating dilemma (Mezirow, 1991a). "Early on when we were questioning our direction, because I remember sitting there being a bit dumbfounded, that when you are certain, it just rocks your

foundations." JD described this feeling as discomfort and an odd feeling of conflict that she didn't like because it made her not feel sure. She engaged in discussion with her colleagues but said her default learning style was to read up on a topic until her knowledge was restored to a comfortable level. She mentioned her teaching had changed because of her professional learning experience but she described this in terms of her practice decisions and practical changes to her teaching style rather than in terms of her perspective of her teaching.

It seemed likely that her action research had caused her to question her knowledge and that it had challenged her thinking, but she could not reflect any deeper on her situation beyond the professional learning being about her actions in the situation and she made no obvious connections to what she personally or professionally valued. She acknowledged that questioning her values was not a comfortable space for her. The interview confirmed that the PT Index score of 1 was an accurate reflection of JD's experience as she did not convey any views directly about having experienced a perspective change, or any transformative learning connected with her professional learning experience. JD's interview was not included in the coding and theming of interviews because her PT Index was determined to be correctly assigned as PT Index-1 and therefore JD was confirmed as being outside of the scope of the research study.

4.3.1.9 Open coding findings.

"Words carry many meanings. They are nuanced and highly context-sensitive" (Cohen et al., 2009, p. 495). Open coding of the interview data established 11 parent nodes and 21 child nodes. Some elements identified for coding were common in all seven interviews and where this occurred the overall number of references were also high. Teachers sharing their reflections of action research was a finding common in all seven interviews. There were 42 references to the theme identified by the code name RQ1 AR Reflections. All seven interviewees shared personal reflections shedding light on their conceptual understandings of transformative learning. There were 40 extracts from the interviews referencing this element. The theoretical construct of humans needing social experiences to learn identified in the coding by code name: Socialisation, was present in six out of the seven interviews that were coded. There were 34 references in words and phrases in six interviews that related to Socialisation. Teachers reporting professional practice changes, or involvement in higher education studies related to their professional learning experience was an element in all of the coded interviews. There were 22 references assigned to the child node with code name Advancing Professional Self. Teachers reported support from teacher leaders and facilitators in all the coded interviews and there were 17 references across the seven interviews. The

open coding of the interview data is shown in Table 4.8. The child nodes are shown with dot points. Table 4.8 shows the numbers of interviews where references to a coded theme or child node were found and the overall number of references to the node in the coding.

Table 4.8

Number of Coding Files and References at Each Node

Node Name – Parent and Child Nodes	Number of Case Files coded at the Node	Number of References to the Node in the Coding
RQ1 AR Reflections	7	42
RQ10 Sense of self	4	8
• Advancing professional self	7	22
• Empowerment	2	6
• New Actions	5	9
• New Perspectives	5	8
RQ11Future	1	1
RQ2 AR Perspectives	4	11
• Encouragement	2	10
• Ownership	2	4
• Support	7	17
RQ3 Affect	2	5
• Negative Fear and insecurities	4	7
• Negative Frustration	3	7
• Positive attitude	5	11
• Positive confidence	4	6
• Positive Feeling motivated	4	13
RQ4 Revised Perspectives	6	11
• Becoming aware	3	6
• Engagement	2	5
• Values	2	2
RQ5 AR Transformative	3	9
RQ6 TL Experience AR	3	4

RQ7 TL Unfolding	5	7
• Adopting new ways of acting	2	4
• Disorientating Dilemma	3	5
• Socialisation	6	34
• Triggers	5	11
RQ8 TL Description	0	0
RQ9 TL Conceptual Understandings	5	11
• Metaphors	2	6
• Personal Reflections	7	40

The total number of nodes created in the open coding was 32. These nodes were analysed and considered for their overarching themes with the objective being to reduce the overall number of nodes by finding concept-based relationships within the data. The essence of my interpretation of the data commenced in the open coding and through the process established a node hierarchy from my analysis of participants' interview content. The node for Transformative Learning (TL) Description shows zero references which is a coding anomaly most likely explained by teachers having provided details around their transformative learning that aligned with other coding categories. The zero result for this category suggests this node should have been merged with one or more other nodes.

4.3.2 Findings by axial coding.

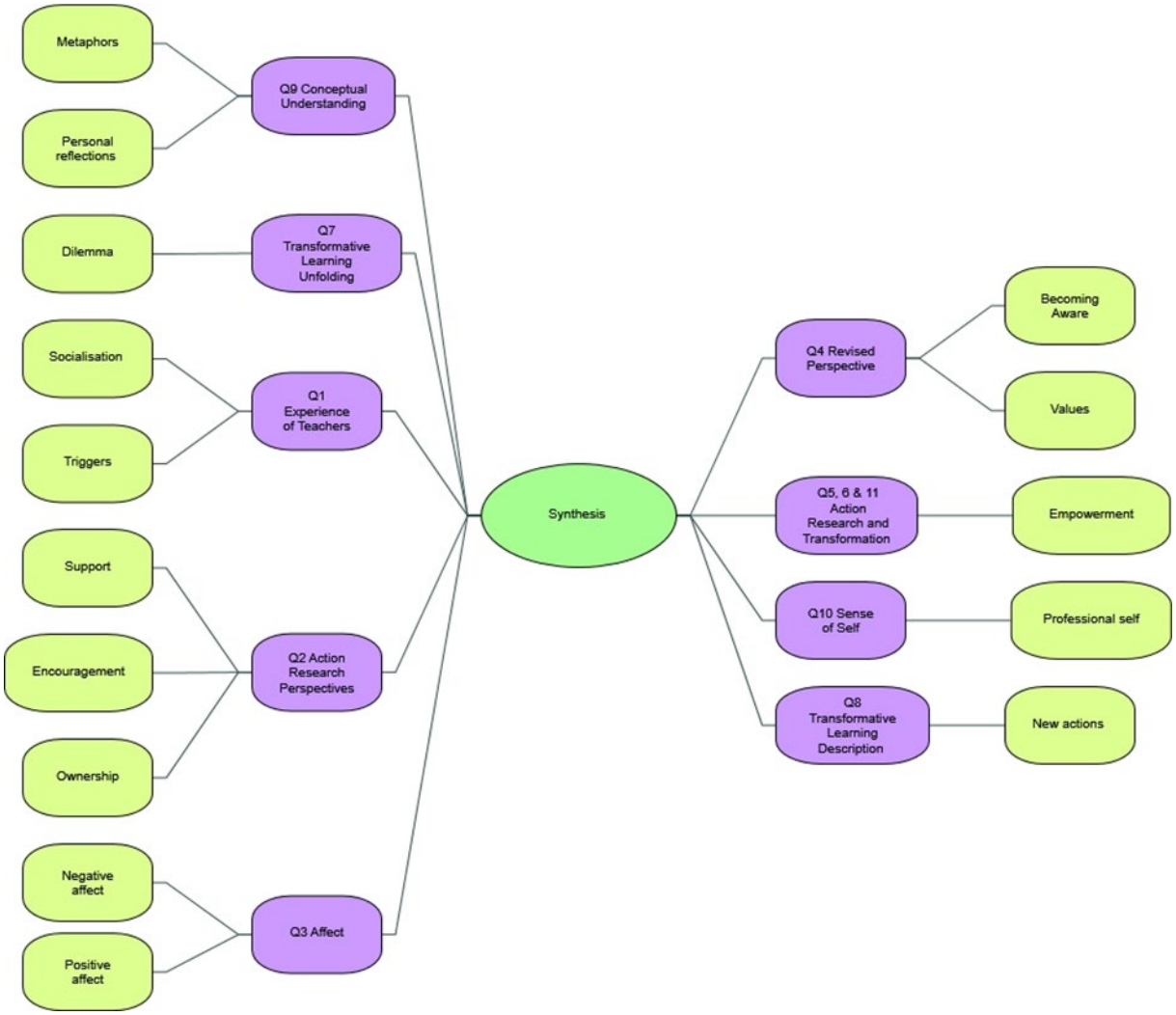
The axial coding followed the open coding process which had disassembled the interview data into words, phrases and sections of text. The axial coding was the next step in the analysis to reassemble the data to look for any connections within the data. The numbers for the research questions were recorded in the open coding against the parent nodes to highlight possible links to the research questions as information emerged. Although research questions were considered during the coding process, the research questions were not rigidly enforced upon the data as the child nodes were assigned inductively as they emerged from the interview transcripts.

Some parent nodes were moved within the coding structure from their initial placement and some child nodes were combined with other child nodes to create the mind map for the creation of an axial coding hierarchy shown in Figure 4.10. There were several iterations of the mind map, which was first created in a concrete way using paper notes to

allow for maximum mobility of analysis before being represented electronically for readability and overall clarity.

Figure 4.10

Representation of Axial Coding



The axial coding shown in the mind map displays the child nodes feeding into the parent nodes. Some open codes were grouped into parent nodes and some open codes were individually identified as related to a parent node.

I assigned meaning through my interpretation of participants' interviews and looked for connections to the research sub-questions. Throughout the axial coding, I referred to the research sub-questions to organise the emerging relationships and find meaning within participants' overall responses to the interview questions.

The parent nodes shown in the mind map and the outlying child nodes provide a graphic representation of my interpretation of the relationships within the data. The axial

coding reduced the data nodes to 24 codes, of which nine codes were parent nodes. The relationships within the data were explored at the level of axial coding and further explored in the next stage of analysis, the selective coding.

4.3.3 Findings by selective coding.

The interpretation emerging through the open and axial coding involved my thinking around the nine parent nodes and was informed by insight gained from the theoretical overview of perspective transformation by Mezirow (1991a) and the elements that Mezirow identified in transformative learning. The data collected in my research was disassembled and assembled through an emerging coding structure.

The parent codes in my open and axial coding and the interview content were explored again for their interrelationships between the coded extracts from participants' interviews and the elements in the existing theory. This process is summarised in Table 4.9 and described through narrative.

Table 4.9

Merging of Parent Nodes into Conceptualised Themes

Parent nodes	Theoretical perspectives (Adapted from Mezirow, 1991a)	Conceptual codes from selective coding
conceptual understanding, experience, sense of self, affect	AWARENESS OF BELIEFS presence of a heightened awareness of feelings and beliefs,	Awareness
revised perspectives, action research and transformative learning	APPRAISAL OF ASSUMPTIONS assessment or evaluation of assumptions in relation to feelings and beliefs,	Assumptions
transformative learning description	ASSESSMENT appraisal of and the acceptance of a different or a synthesised version of a new perspective	Assessment
unfolding transformative learning	NEW PERSPECTIVE actions by the individual that incorporate the new perspective.	New perspective

According to Creswell, a narrative can describe the interrelationships among the data (Creswell, 2012, p. 442) to highlight the progress made towards creating a coding paradigm. In my research study, participants gave detailed accounts of their experience in professional learning showing they had a detailed awareness of their professional learning experience and awareness of the changes in their perspective of themselves as learners including how they perceived the action research as an opportunity to build their conceptual understanding. Participants shared, "I think that action research was the first step on a journey". And another, "I realised the importance of research-based evidence for my teaching and reflecting on my

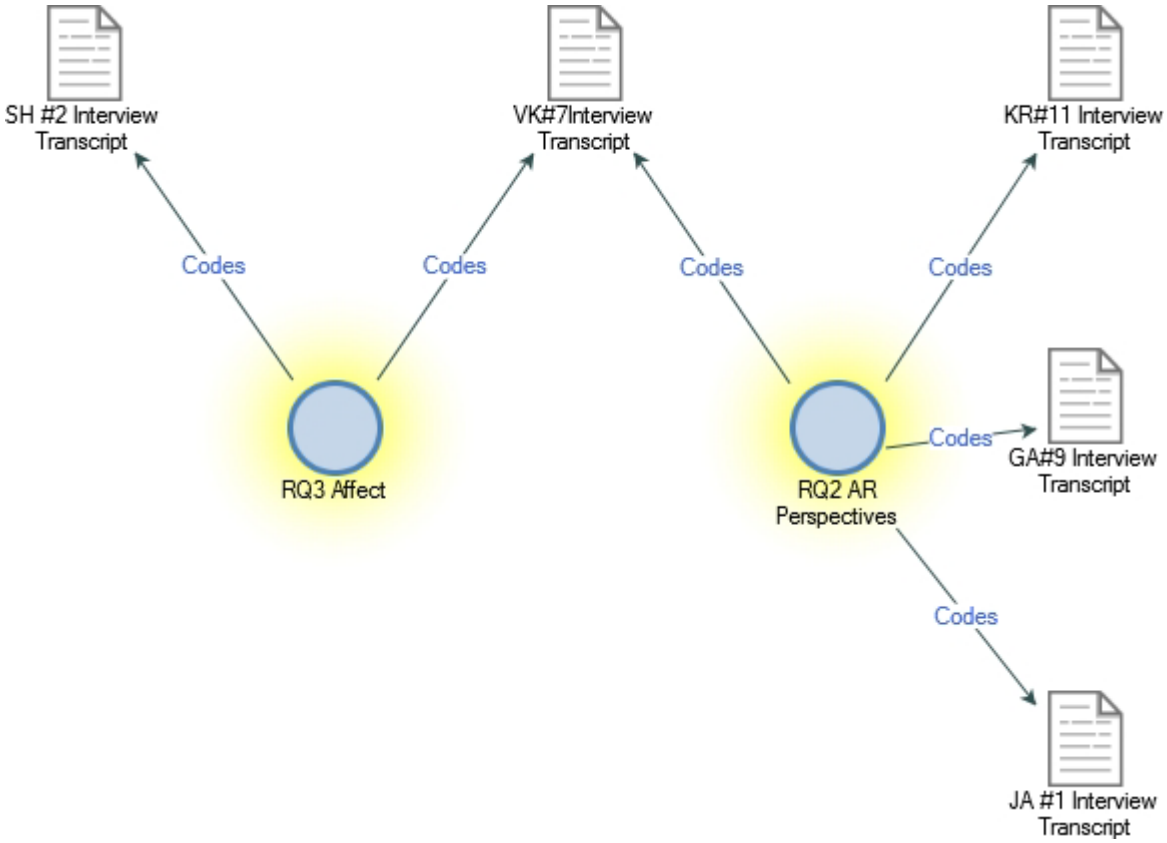
own practice and the responses of the students. I was also basing that (my practice) on academic literature."

Teachers gave accounts of their revised perceptions of themselves as learners and described how they had acquired new understandings. Some reflections were simply expressed. "I'm just more open. I'm more curious". Teachers had grown as professionals and changed in the way they viewed themselves as professionals through the experience. A teacher remarked, "And that's if I think from the beginning to the end how so much changed, that we had the trust at the end to be able to share that at the end. It was huge!"

Many teachers explicitly talked about their feelings, making statements such as "to go forward I need to take a good look at myself and I need to change". It was evident that participants had been influenced on a personal level by their professional learning experience and that they had a heightened awareness of their feelings and beliefs. Affective associations were recounted throughout their interviews and their action research perspectives. Figure 4.11 is a visualisation created using NVivo software and is a comparison diagram showing two coding nodes that interview items have in common and where they differ. In Figure 4.11, VK #7 interview was coded for both themes, affect and action research perspectives, whereas SH#2 Interview was associated with the coding for affect but not action research perspectives.

Figure 4.11

Relationship of Coding at Affect and Action Research Perspective Nodes



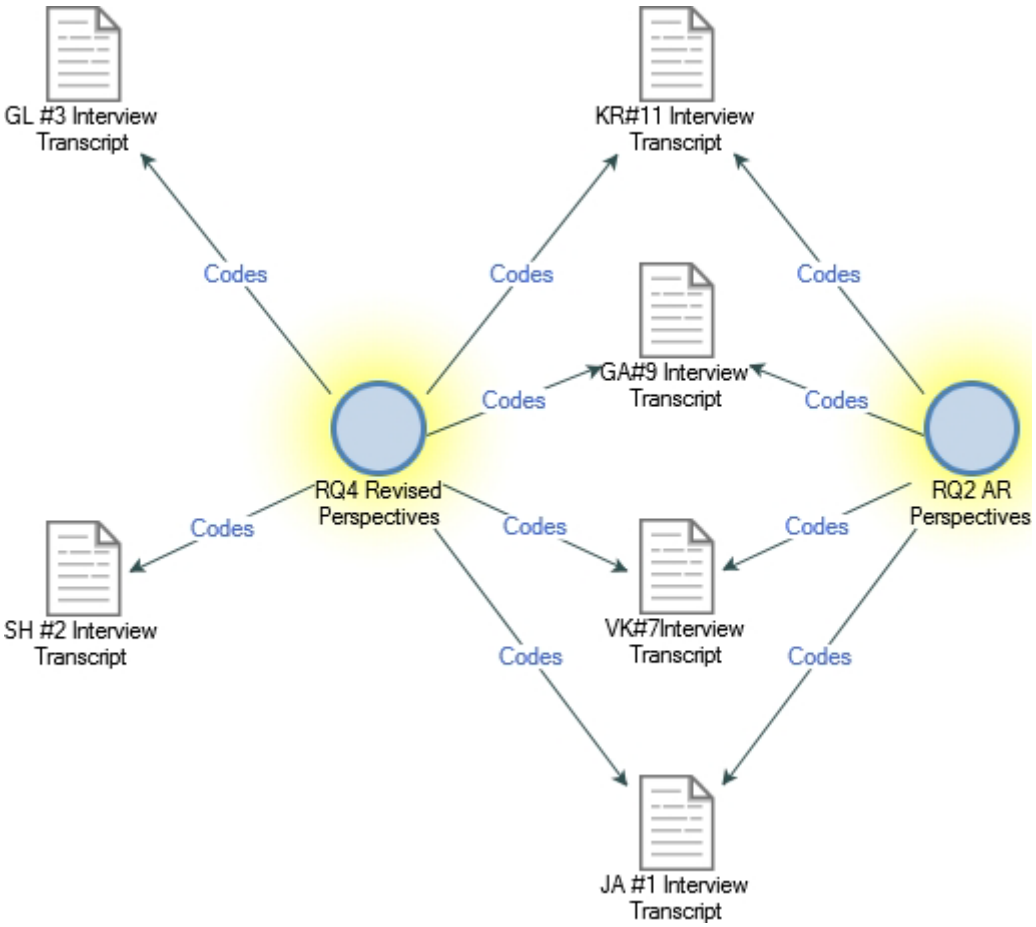
Participant VK explained her interaction with other team members in the action research and how she saw people's concerns and objections as people being negative. She interpreted this as "it was just, they were coming from their insecurities about change as well and so, once I realised that, once I realised that everybody was in a state of fear, because we had made an enormous change, I was able to be more understanding. I was listening more and as I listened more and as we talked and shared, things became a lot smoother".

Other participants communicated their experience in relation to their affect but what they described was not always a positive experience for them in the early stages and some participants had been challenged in ways they had not expected. They expressed having a changed set of values and beliefs and credited a connection to their professional learning for this occurring. A participant expressed, "my belief has now changed. Relationship is first, and academics will come and follow if you just establish the relationship with students. That was something that I got out of the reflections and the journaling and interviewing with the students. Without that relationship first, they (students) are less likely to learn and the research backs that up since I've been looking into it as well." Figure 4.12 is a comparison

diagram showing two coding nodes that interview items have in common and where they differ. In Figure 4.12, GA#9 interview was coded for both themes, revised perspectives and action research perspectives, whereas SH#2 Interview was associated with the coding for revised perspectives.

Figure 4.12

Relationship of Coding at Revised Perspectives and Action Research Perspective Nodes

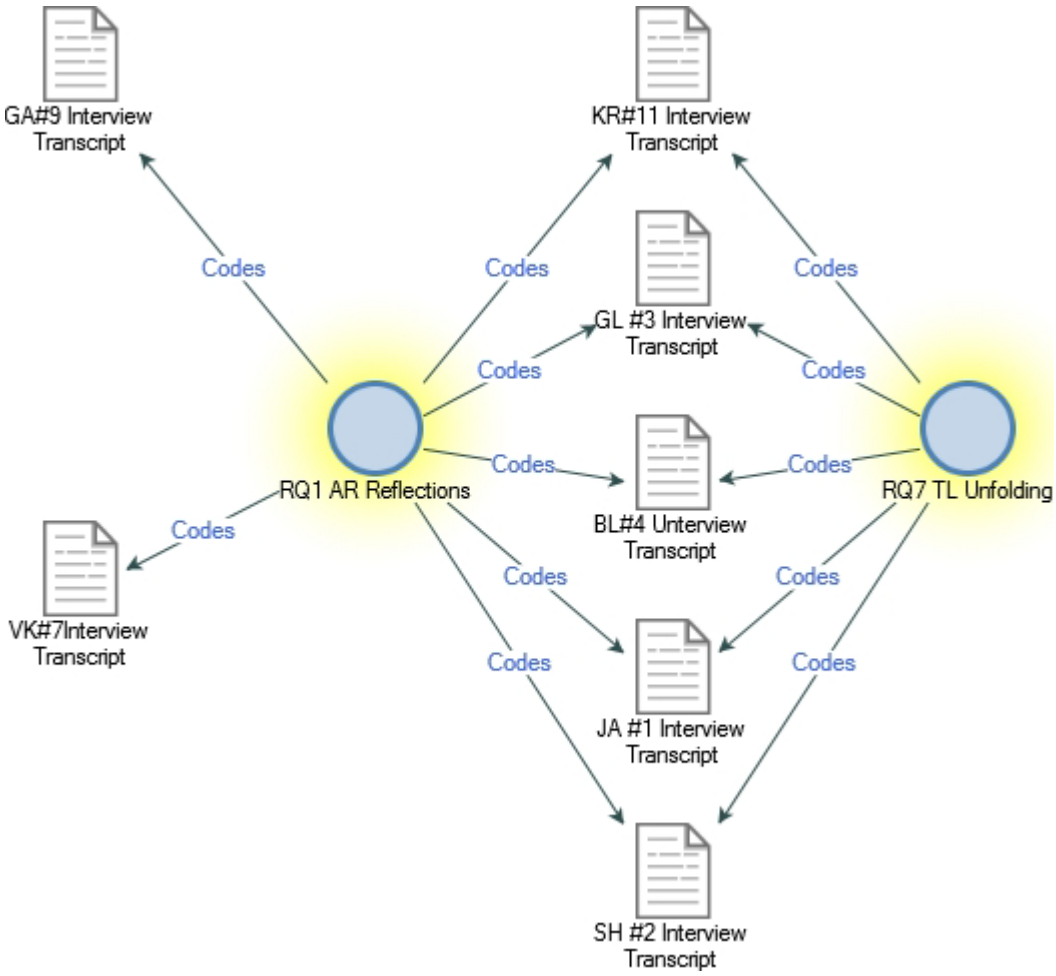


Relationships between participants' revised perspectives and their action research perspectives were explored and multiple interviews included references linking these axial coded themes. Participant KR realised the importance of research-based evidence with her teaching and reflected on her own practice and the responses of her students. She was basing her practice on what she had learned from the academic literature. GA said the whole process of action research and reflecting on one's practice was a good thing and she did feel very excited about working on those aspects together with the other staff. For her, the professional learning was like a journey, where she discovered more about herself, about relationships, about education and teaching children and how it all fits together. Participant JA believed the

action research changed teachers' hearts and minds. Figure 4.13 is a comparison diagram showing two coding nodes that interview items have in common and where they differ. In Figure 4.13, GL#3 interview was coded for both themes, transformative learning unfolding and action research perspectives, whereas VK#7 Interview was associated with the coding for action research reflections.

Figure 4.13

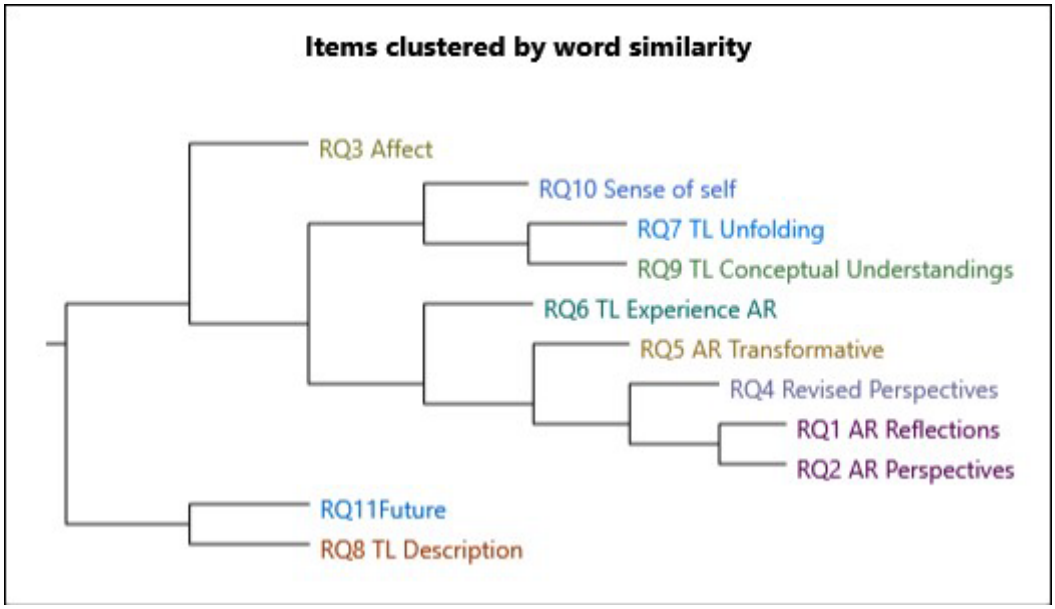
Relationship of Coding at Transformative Learning Unfolding and Action Research Perspective Nodes



A cluster analysis of nodes used in the coding process based on word similarity revealed *Affect* as an overarching category as shown in Figure 4.14.

Figure 4.14

Nodes Clustered by Word Similarity



4.3.4 Findings by constant comparison.

The application of open, axial, and selective coding utilised the method of constant comparison (Cohen et al., 2009, p. 493)). Each interview transcript was analysed for emerging ideas expressed in words, phrases or sentences and coded across 32 parent and child nodes initially representing the categories identified in the transcripts through open coding. Interview transcripts were successively compared to each other by using the same codes which were added to progressively until no further codes were emerging. The interviews were interpreted through the writing of summaries. Relationships between the accounts of interviewees were identified using NVivo software and explained in narrative summaries. The NVivo software was used as a tool to identify categories of information in the interview transcripts. Any relationships between the interview transcripts were further interpreted through the commonalities found in coding and the relationships in the emerging themes in the data. The relationships were explored through many readings of the transcripts and consideration was given to where the coding could be reassembled to generate overarching themes in the data. In the initial stages of interview coding, new child nodes were added to accommodate emerging ideas. The creation of new nodes sharply declined after three interviews were analysed and by the analysis of the last two interviews, no new nodes were required. Through axial and selective coding, the categories identified in the interview data were progressively merged and relationships were interpreted. The many layers in the exploration of the interview recordings revealed the properties of the categories that were

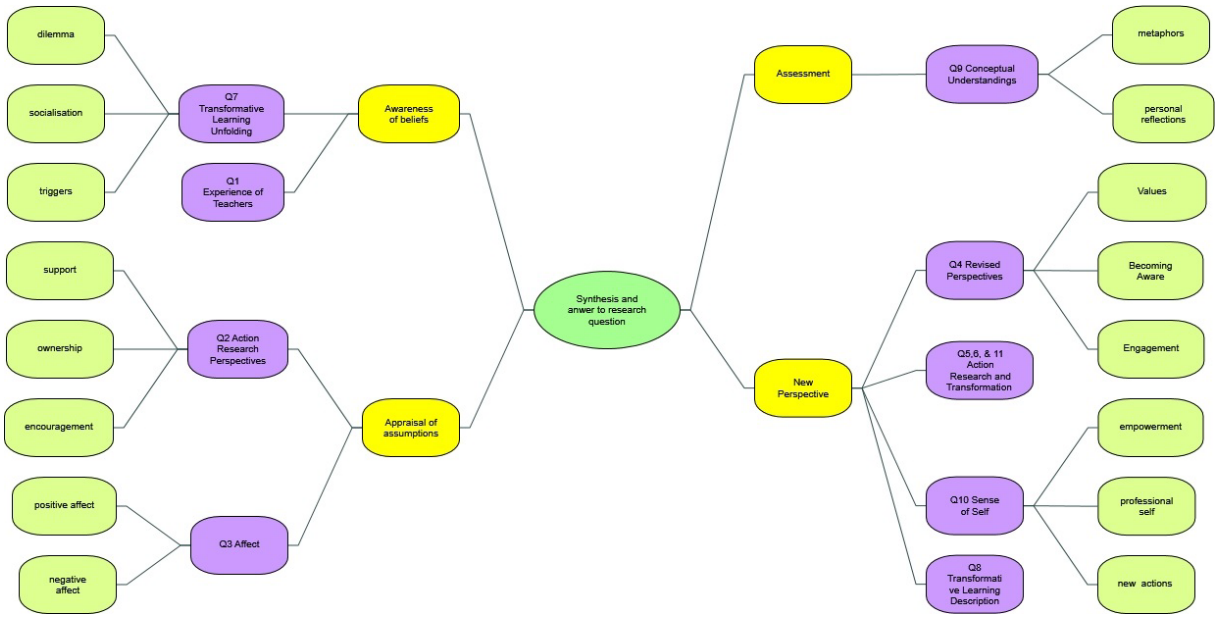
integrated into four synthesised, concept-based themes before being compared to existing theory. The relationships in the data are described through narrative. The process of analysis, including the constant comparison of the data, reached saturation when no new coding categories were emerging.

4.3.5 Coding Mind Map.

The three-stage coding of the interviews, and the analysis within and throughout the process, revealed the codes and these and their relationships are displayed in a coding mind map represented by Figure 4.15.

Figure 4.15

The Coding Mind Map



4.3.6 Overall Interview findings.

The interviews revealed teachers' conceptual understandings of their professional learning journeys and how they had changed personally and professionally over time. Their interviews revealed the team-based learning experience was one of growth for the teachers collectively, and they expressed their feelings of having revised perspectives and a changed sense of self. Seven out of eight teachers interviewed described having changed values and beliefs that they attributed to the action research component in their learning experience. The references to team-based learning were common in their interviews with all valuing the opportunity for the shared dialogue. However, some expressed feeling challenged initially,

even vulnerable, by the need to collaborate. One teacher believed the social relations in her professional learning team presented her with an additional disorientating dilemma. Teachers generally believed the action research pulled them together as a professional team and that a sense of power was realised from them working together. Teachers expressed, explicitly, their sense of learning about themselves as learners, their changed perspectives and feelings of empowerment.

The interview findings were summarised in the themes identified through the coding. The concepts underlying the themes are conceptual understanding, experiences, affect, sense of self, revised perspectives, transformative learning and the connection to action research. The interview findings were gathered from the seven teachers out of the eight interviewed who described their conceptual understandings and affect in their transformative learning experience. They made associations to a wide range of feelings and emotions concerning their transformative learning including feeling encouraged, vulnerable, powerful, successful, confident and motivated. The feelings they described were interpreted collectively as positive outcomes for teachers reflected in them feeling empowered by the professional learning experience and their achievement and growth as teacher practitioners.

4.4 Phase Three: Illustrative example findings.

4.4.1 Illustrative example narrative.

According to Creswell (2012), "the primary form for representing and reporting findings in qualitative research is a narrative discussion" (p.254) defined as "a written passage in a qualitative study in which authors summarise in detail, the findings from their data analysis" (p.624). A narrative discussion follows.

One teacher's suitability as an illustrative example, for my research Phase Three, was identified through the analyses of her survey and first interview responses in Phases One and Two. Her responses were consistent with having experienced transformative learning and her interview in Phase Three, elaborated and confirmed her transformation. Her professional, team-based, learning experience was understood in detail through an extended and semi-structured second interview that illuminated her conceptual understanding and affect concerning her transformative learning.

The illustrative example was VK, a female participant aged 46-55 years who was a Head of Faculty and a class teacher of high school students when she engaged in action research for her professional learning in 2014. She considered herself to be a Highly Accomplished Teacher according to the Australian Professional Standards for Teachers. She was the holder of a bachelor's degree at the time of her professional learning, however she

had no research experience prior to engaging in the action research. Her survey responses were assigned a PT Index score of 3 because she had experienced a perspective transformation and transformative learning that she connected with her professional learning.

VK detailed how her professional learning was transformational for her and expressed affective associations throughout her Phase Three interview across the full range of emotion from fear to joy. This was of interest to me, as she made the distinction between the professional learning experience and the process of action research. In one unique response in her survey and one unique response in her initial interview, she stated her professional learning experience was transformative for her, but that it was not due to the action research process. VK presented a unique opportunity to understand how her professional learning involving an action research experience was transformative but, in her mind, her transformation was not due to the action research itself.

VK described how she felt she had been empowered both personally and professionally through her experience in the program but not by the action research process. Her case was an illustrative example of the phenomenon of transformative learning occurring for a teacher in the teacher professional learning context. VK had a PT Index scale score of 3 assigned from her survey responses, suggesting from the outset she had experienced a perspective transformation in connection with her professional learning.

VK responded in the first interview saying her professional learning experience was transformational. Her response was unique amongst the interview responses because she expressed very strongly her success in the professional learning right from the initial stages of the interview and openly stated the transformational nature of it. Other participants did not describe their feelings using this specific term. VK, was asked in the initial interview to describe her experience in the professional learning. She responded, "Well it was transformational, actually".

In an extended and semi-structured interview in Phase Three to learn more about the details of her case, I asked VK to tell me about the context for her professional learning. She had detailed memories of her experience and explained her understandings and beliefs in a great amount of detail. The passion for the experience she had in her professional learning remained very strong. VK explained how she came to the professional learning with the intention to explore a school program that was already having anecdotal success using changed approaches to maths assessment. VK was a lead teacher of Mathematics and the Head of Mathematics. A team of teachers had come together, including VK, as a group of colleagues to join in the professional learning opportunity to apply action research to

investigate an assessment approach in the hope of learning more about it and to gather some evidence to make widespread changes in the Mathematics Faculty at their school.

VK recalled all teachers were not in agreement initially about the intended focus for their collaborative research and this translated into the team not being very effective to begin with. They had experienced some difficulties in working together and VK explained how the team members were not in agreement on several aspects pertaining to the action research. VK described the strong personalities amongst the team members which complicated relationships further in the early stages of the research project. VK acknowledged that some of the difficulty for the other members of the team was likely due to the research being all in her head initially and she was already quite passionate about the opportunity to research a topic that she described as being connected to her heart and soul. She felt the research focus area was just common sense, however she came to realise it was not a common sense shared with the other members of the team, perhaps except for one other team member.

VK was convinced the professional learning opportunity gave her licence, a validation, to work hard to research in her teaching area. VK aspired to be a change agent in her school and was highly motivated to improve her professional practice through research. The opportunity to connect with current research was very important to VK. She explained her feelings of strong commitment and strong excitement at being part of the professional learning opportunity. The project came with a grant allocation and she was excited that this would allow the team to buy some release time to discover and learn more about their research focus area. She said she felt incredibly excited about the whole project and her involvement also forged in her feelings of commitment that, not only did she have to do the research, she had to do it well.

She perceived her feelings of commitment were not shared by the other team members to the same extent. The other team members saw the action research process as a series of tasks, but for VK it was her heart and soul commitment to improve her professional practice and the outcomes for her students which she described as standing her apart from her colleagues.

VK conveyed her strong personality and no-nonsense, passionate approach to teaching throughout both of her interviews expressing her personal goals to make a difference to her students' learning outcomes through her teaching. She reflected in her commitment to her teaching profession and her desire to teach from the heart for the best possible learning outcomes for her students.

VK shared a reflection, dating back to 2008, when she was thinking about walking away from her teaching career altogether. She said she was disillusioned by her diminishing professional engagement and was thinking about a career change. Truck driving in the mining industry seemed like a viable alternative to her teaching and she had seriously considered making the change around that time. She doubted her future would continue as a maths teacher because she wanted something better for herself and her students, whilst the others at her school, she thought, seemed vested in maintaining the status quo. She recalled her teaching was the "same, same, same" and she was not very motivated by it. She was trying to work out ways to do better. It is very likely that VK was already facing a disorientating dilemma at this point in her professional career.

By 2014, she was facing another disorientating dilemma (Mezirow, 1991a) as she watched students fail in their Maths assessments periodically and suffer heartbreak at not being successful in maths classes. VK had an idea for what she called second chance testing that she thought initially was her own creation. She introduced her approach and found it was powerful in its effect on the students in her class. She recounted her students' achievements and the changing student attitudes towards Mathematics with great enthusiasm. "We need to tap into this (learning) energy because learning is all about emotion", she said. VK was keen perhaps even predisposed, to make a difference in her students' learning before beginning in her own professional learning journey. Her professional learning opportunity, she described as her "piece de resistance" meaning the best and most important or exciting thing that had happened for her, professionally speaking.

In the beginning of VK's first interview she described the professional learning as transformational and she believed it gave her an opportunity and a mandate that was permission to challenge the status quo in mathematics teaching and assessment in her school. She had a lot of professional challenges at the time. She was seeking evidence to improve her students' learning outcomes in Mathematics. She was not content to work with the idea widely accepted in her school that students can either do or can't do maths. VK was further frustrated by the idea circulating about female students having 'reduced' efficacy for learning maths; an idea she was ready to contest.

VK felt driven to do something for her students to help them in their maths achievement. She found the period of her professional learning enlightening and said it felt like the truth changing. She questioned her own beliefs and realised she didn't have a completely fixed mindset but had elements of one. She said her beliefs had changed in

connection with her professional learning leading her to have a growth mindset. She felt she was emerging from her base personality to that of a more mature professional.

VK had a multilayered view of transformation and what she initially described were the more practical elements of transformation including changes in her teaching approach, and her approach to reporting. But thinking about herself, she said she had the courage to work for her students. Courage, empowerment, enlightenment and truth-changing were all terms VK used in her descriptions of her feelings arising from her professional learning experience. VK spoke of the importance of staying 'brave' throughout her professional learning and having the courage to follow through with the research intentions to carry out her action. She felt her staying brave to complete the action research was important to her achieving her transformative learning.

Shared dialogue, support and encouragement were themes identified in the survey responses and initial interview responses provided by VK. These themes were explored individually in the extended interview with VK. Asked about how the shared dialogue was important to her and the transformative learning she experienced; she said the shared dialogue was important to generating a shared understanding. Shared dialogue was essential for making links, making meaning from the literature and making connections between her research and her teaching. VK believed shared dialogue was important for team members to articulate and order the elements in the research and she acknowledged that bits and pieces of information for the project come from other people through shared dialogue. Through the shared dialogue she felt 'new doors' could open many possibilities.

Asked about the support she and her team received during the professional learning project and how it made a difference to her learning, she said "It was phenomenal". VK alluded to how she separated the process of action research from her transformation. VK said she and her team members received guidance and support in abundance in a personalised way where the focus was on the researchers and what they were trying to achieve. This, she said was what made all the difference to her learning, not the action research process. She said feeling supported made a difference to her learning and this was her reasoning for providing a 'NO' response in the survey to Q7: During or after your participation, was it the action research process that influenced the change in your values, beliefs, attitude, motivation or expectations? She said it was the support that was personalised that made a difference to her learning outcome because she felt supported to make "big changes".

Encouragement by her a facilitator "had everything to do with it". VK acknowledged the encouragement of the research project mentors and the support of her school leaders. Her

principal had told her, "Don't be frightened to go too fast". The principal had encouraged her "to make changes that were not easy". The deputy principal was also encouraging but in a different way, reinforcing her sense of responsibility to keep going with the research with focus and commitment.

Professional learning through action research is known to be more successful with school leader support and encouragement and VK was personally aware of the difference having her school leader support made to her learning journey. Her transformative learning journey appeared to be supported through the encouragement she acknowledged receiving at many points throughout her professional learning, from her school leaders and from multiple key stakeholders and mentors.

In VK's initial interview, she likened her professional learning experience "to going through this personal evolution". For VK her feelings of personal change or evolution were due to many elements connected to her professional learning. She described having to work "really hard" and that involved "developing a discipline that I didn't know I had". It required a level of commitment and self-discipline and for her the project represented "a big step up" because it was her first time involved in research. Part of her evolution was the sense making she was achieving, and she did this by "reading and just keeping on reading". She said in some ways she "learned how to learn" and this feeling gave her a greater sense of connection to her own students and their learning attempts back in her classroom. She was able to share with her students that learning requires resilience, as she had experienced from her own experience as a novice researcher and her experience "helped her articulate the process of learning" to her students from her personal experience of engaging in research for the first time.

A feeling of insecurity was something that VK mentioned she experienced and acknowledged there had been a time when she had consciously thought, "I need to take a good look at myself and I need to change". VK adopted new ways of acting and changed in other ways in the early stages of her professional learning. VK "let go of that fear" and came to feel like she was "a bit addicted to research now".

VK was asked in the extended interview to describe the reflection she engaged in during her professional learning. This was because the activity of reflection is an integral part of the action research process and any mention of it explicitly taking place was missing from VK's account of her professional learning experience possibly because as she explained the process was not what she saw as important. She did not mention engaging in reflection or critical reflection with her colleagues. This observation was completely at odds with VK who

during interviews presented as a highly reflective person who included many examples of her own personal reflection in her commentary on her professional learning experience.

In the extended interview, she remarked that everything she did was "all about reflection". She admitted to self-talking and asking herself "What am I doing?" and "What are we doing?" frequently. She reflected on things she believed were "no longer good enough" and at times reflected on her own changing beliefs as her professional learning progressed. "My reflection was to dig deep to try and stay with that work". VK thought that reflection for her was connected to her need for shared dialogue, which she referred to as her "need to talk". Reflection was implied in her work with her colleagues and perhaps that is why she had not mentioned it explicitly in her initial interview, although she had acknowledged personal reflection in her survey as being part of the professional learning experience. Reflection for her was "a very big part" of incorporating, internalising and rearranging of her thoughts.

VK was asked what her thoughts were on the influence of emotion in her transformative learning. VK replied, "Learning is all about emotion, and joy, and hope. It's powerful". She said she "felt good, joyful, what a rush" about her learning. She confessed to feeling "euphoric" about her professional learning at times.

I asked VK if her transformative learning was good transformation or if she might prefer to describe it in another way. "I so agree with this" was her response. Her experience of transformation was good in her mind because her common sense had been validated by the research study and in trials of the assessment approach in her maths classroom. It was good transformation she believed because she was "empowered to a high level" and she had increased capacity from her professional learning experience, using her metaphor "like increased muscles".

In VK's initial interview, confidence was a theme running through her transcript. She was asked how she saw her perspective change in terms of her confidence and empowerment. Her confidence was boosted. She saw herself as a lot more confident because she had orchestrated significant change in her school, her faculty and her classroom. She had improved outcomes for her students but admitted to also being a bit wary because there were still students who "need things" and she was still working towards assisting them in some way. "I am more confident, but perhaps I have a little fixed mindset still that needs to be changed to a growth mindset".

We talked about the importance of cooperating with others, having important one-to-one conversation, being flexible even when frustrated, mixing with people and VK talked about working with people in groups including being with people, and the part that

relationships played in her professional learning. VK acknowledged support and relationships were very important to her transformative learning.

"I think it was the belief that the facilitators had in our topic and our team, that was empowering. We (thought we) can do this, because smart people think we can do this. Also, because there was an admiration and respect for the facilitators, and we wanted to make it work."

VK said she was engaged by the professional learning, as well as challenged. "They're a powerful combination in learning. To accept challenge, embrace challenge and overcome challenge you have to be engaged". VK summarised how she valued her personal development through the professional learning opportunity and how she had gained so much. "The more you read, the more you learn, the more you appreciate how narrow your view of the world is and you question things. You realise the truth is said on shifting sands and you realise the reality for yourself is not the reality of other people."

VK felt she had grown up through her action research. She had matured through action research. She remained very excited about education and the role she can play in significantly improving education outcomes for her students. She reflected on where she had come through this research, compared to some of her colleagues who she considered "didn't feel like they needed to change." VK emphasised one word, 'Purpose'. She was clear about her purpose in life - bringing about change for her students in Mathematics and her professional learning provided her with a platform of knowledge to do this.

Chapter 5 INTERPRETATION OF THE FINDINGS

5.1 Survey.

5.1.1 Revisiting the survey.

I adapted the Learning Activities Survey (King, 2009) to create an online survey that was contextualised to the teachers' professional learning situation and distributed the survey to 181 teachers who had engaged in the professional learning during the five-year period, 2010-2014. I wanted to understand the nature of the experience for teachers. I was keen to receive completed surveys from as many teachers as possible. The very small response rate to my survey was not anticipated and initially disappointing. It seemed at that stage, that my research study may not be feasible because I imagined I could be looking for a phenomenon that may be rare or profound. With only 14 responses to the survey, I was concerned I would not find any cases with unexpected professional learning outcomes to investigate further to answer my research questions. I was not confident such a small group would hold the key to what was empowering for teachers in the professional learning. I have gained much insight from the research and writings of Kathleen King about the evolving nature of transformative learning theories. Her research has informed and encouraged my research journey. I was considerably reinvigorated when I found that "traditional transformative learning research includes 3-12 participants in in-depth qualitative studies" (King, 2009, p. xvi).

King (2009) studied English as Language Learners (ELL) who surmounted many personal and learning barriers to advance their adult education, moving forward from struggling language learners to bilingual communicators. She noted, "adult learners share the capacity to experience the impact that transformative learning experiences may have on their sense of self, daily life and world perspective" (p. xx). Finding this information was a critical moment for me. I realised that a small, in-depth study could reveal transformative learning. Since all adults share the capacity for transformative learning, I had a renewed sense that an in-depth qualitative study involving a small number of teachers could contribute to my knowledge and potentially add to the evolving theory of transformative learning.

My research was considered for how it might connect with the widely accepted theory of transformative learning. It was important to see if and how my research could align with the theory and I wondered if my research would contribute any new learning. The transformative dimension of adult learning described by Mezirow (1991a) as a series of dynamic components arising from a perspective transformation identified 10 stages in perspective transformation that are widely accepted and acknowledged in the literature. The components of transformative learning are sequenced and interactive with each other but also

highly individual. The components in transformative learning can be summarised for an adult learner beginning with a disorientating dilemma leading the learner to a heightened awareness of feelings and beliefs, followed by their assessment or evaluation of their assumptions in relation to existing feelings and beliefs. Transformative learning culminates with the appraisal of and the acceptance of a different or a synthesised version of a new perspective that is finally represented in the actions by the individual that incorporate the new perspective. The Learning Activities Survey (LAS), (King, 2009), completed by the 14 teachers who responded to my adapted version of it, provided me with the first sources of evidence to begin to understand my research problem.

5.1.2 Interpretation of survey data.

I proceeded to analyse the 14 responses to my survey, believing that my research was practicable based on the advisory information on a concentrated number of data sources that I had learned from King. My survey identified 11 participants, from their collective responses to survey questions, with a perspective transformation. According to theories of transformative learning, a perspective transformation can be the outcome of multiple conditions and processes (Donnelly, 2016). So, finding 11 respondents with a PT-Index level of 2 or 3 was an encouraging result in the beginning. Ten of them had attributed the change in their values and beliefs to the action research process and eight also credited their change to the influence of a specific person during the professional learning process. According to King (2009), a person can be synonymous with other support opportunities such as educational, emotional, physical or psychological support provided to a learner when needed.

My adapted survey included references to the 10 stages that Mezirow (1978) had theorised for a perspective transformation to take place. The survey prompted respondents with a set of statements matched to Mezirow's stages in Survey Question 2. Since perspective transformation is a forerunner to transformative learning, the findings from Survey Question 2 were important for two reasons. Firstly, the data generated from this question represented my starting point for understanding if teachers recalled their action research experience. Secondly, responses would suggest how well the teachers' experience aligned with the theoretical framework by Mezirow. The extent of alignment was important to me because the theoretical work of Mezirow is considered a powerful articulation on the topic (King, 2009), despite having received much criticism amongst many critiques (Collard & Law, 1989, Clark & Wilson, 1991; Tennant, 1993; Taylor, 2007) and because I was invested in his work as my foundational theoretical framework for my research.

All participants in my survey identified with varying alignment to the 10 stages of perspective transformation (Mezirow, 1978). This was an encouraging result. It was clear that participants were thinking about their professional learning experience, and the question had asked them to do this. However, it was unclear if they were literally recalling the activities involved in completing an action research project when answering the survey question. The most common response was "I took action and adopted the new way of acting", closely followed in frequency of response with "I gathered the information I needed to adopt the new ways of acting". One teacher simply selected one statement, "I took action and adopted the new ways of acting". With the benefit of hindsight, the teacher who selected only one statement from the list of statements did experience transformative learning, but his limited response to this survey question did not give any hint of what was ahead for me during my interview with him. Some statements provided in Survey Question 2 included phrases about agreement or non-agreement with beliefs, questioning of beliefs or the holding of usual beliefs and these statements were selected less frequently by teachers than those statements which seemed to apply more directly to action research like one of the statements, "I took action and adopted new ways of acting". It was a confusing and mixed result from Survey Question 2 that required further investigation.

In summary of Survey Question 2, all 14 participants identified with one or more of the statements describing stages of perspective change in connection with their professional learning. Their responses showed varying degrees of alignment to the theoretical framework. No participants identified with all 10 stages of perspective transformation. Eight participants identified with seven or more of Mezirow's 10 stages of perspective transformation, although not all teachers in this group consented to be interviewed. Five of the eight in this group were interviewed to understand more about their experience.

When 14 teachers were asked in Survey Question 3 to respond with a 'Yes' or 'No' if their values, beliefs, motivation or attitude had changed in connection with their action research, eleven participants responded 'Yes'. This was a clear result which was hugely important to moving forward with the research as these participants were possible candidates for involvement in the Phase Two interviews. Question 3 was a branching point in the survey and selection of a 'No' response effectively extinguished the likelihood of the participant being involved beyond the survey. The eleven 'Yes' responses to Question 3 and the descriptions teachers provided in response to Question 4 were encouraging and allowed me to move forward with the research.

Eleven teachers described the activities they associated with their changed values, beliefs, motivation and attitude. Their responses were enlightening. Critical reflection on current practice, time spent looking for new approaches and research results that had challenging implications for teacher practice were expressed by teachers as influencing factors on their values and beliefs

The importance of working collaboratively, feeling challenged and excited by the opportunity to research along with feelings of commitment to team building and collaboration were also expressed. There seemed no doubt that transformative learning was different for each teacher and that it was authentically connected with their professional learning, either during the carrying out of action research processes in teams or through the reflection that teachers engaged in together and individually for their metacognition. The development of educator "authenticity through experience and process of becoming more authentic is a transformative process" (Cranton, 2016, p. xiv). Cranton (2016) referred to a classic book, *Paradoxes of Learning: Becoming an individual in Society,* by Peter Jarvis, (Jarvis, 1992), and drew insight from reading about people described as authentic because they chose to act in a way that developed another's being. There are obvious parallels in the professional relationships that teachers made whilst working in collaborative teams to complete their action research because they developed each other in relation to their shared professional practice to some degree by sharing in action research. The dialogue and critical reflections they shared and the trust they developed amongst their teams, and with the facilitators in the course of the professional learning, was part of the context around teachers' action research. It seems the learning conditions came together for transformative learning to occur for some teachers.

Emotive references were included in teachers' descriptions in their open responses to the survey expressed as feeling appreciated, encouraged, affirmed, enabled, committed, justified and not being scared. Emancipatory references were included such as the right to challenge traditional approaches, fixed mindsets, diversity, democratic research, opportunity to contribute and not feeling dominated. Teachers' responses in the survey gave early indications that they responded affectively and through a range of emotions to their transformative learning.

Three participants in the survey believed they did not experience a perspective transformation in relation to their professional learning, although they selected 1-4 of the statements describing the stages by Mezirow for perspective change in Question 2. The participant who selected 4 of the statements recalled questioning her ideas during the

professional learning but said in the survey she still agreed with her beliefs. She selected statements about trying out new roles, gathering information needed to adopt new ways of acting, taking action and adopting new ways of acting. She was assigned a PT index score of 1 and was not a candidate for interview due to her response to Survey Question 3 which was a 'No' response to having experienced changed perspectives. After further consideration and to maximise the data gathering opportunities available, she was interviewed simply because she had given consent to be interviewed and the overall number of teachers in the study was low. The interview with her confirmed her survey response that she had not experienced a perspective change in connection with her professional learning. Her response to the survey and her subsequent interview data confirmed she had been correctly assigned a PT-Index score 1 and had not experienced a perspective transformation. Also, the interview with this teacher supported my early interpretation that some teachers may have answered Question 2 in the survey in a literal way, by thinking about the actions or processes required in action research rather than by responding about their personal experience. It appeared this interpretation was possible in this teacher's case.

Was Survey Question 2 misleading the survey respondents to think about the actions and processes in action research? It is important to note that teachers were surveyed without them knowing the theoretical framework for my research. It was important for me to gather responses from teachers that expressed their self-perception of their learning without my interest in transformative learning being made explicit. My reasoning for taking this approach was two-fold. I used the Learning Activity Survey by King and adapted it by changing the contextual references to the learning situation so that it applied to the teachers' professional learning experience. The question format was only adapted from the published format in the context described within the questions. I needed to follow the instructions given by King to maintain certain questions to allow me to assign PT Index scores. This was important, according to King (2009), to maintain the internal validity of the survey. I also set out to establish what teachers remembered of their experience without any suggestion that I was looking for a transformative learning outcome. How teachers communicated their experiences in terms of their emotions and feelings was important to answering my research question and I did not want to lead the teachers in their responses in any way because,

> Remembering involves an object or event that usually has been associated with an emotion influential in our initial learning. How well we remember depends on the strength of this emotion, the degree to which the originally learned event was differentiated from and integrated with past experience in the first place, the context of

> other events in which the object or event was embedded, and the impact of events that followed the initial learning. (Mezirow, 1991a, p. 29*)*

Explicit naming of my field of interest could have provoked different reflections from teachers, since there is much evidence to support the assertion that we tend to accept and integrate experiences that comfortably fit with our frame of reference and discount those that do not (Mezirow, 1991a). If teachers had been given a starting frame of reference for the survey by stating the research focus, their description of their learning outcomes or the affective dimensions of their learning that they recalled may have altered. To maintain the empirical validity of the survey and to identify teachers with a perspective transformation, teachers recalled their action research experience and selected statements which applied to them. This approach has been followed in many applications of the Learning Activities Survey (King, 2009).

The statements in Survey Question 2 were an ordered list of the 10 progressive stages of perspective transformation. Beginning with "I had an experience that caused me to question the way I normally acted", otherwise called a disorientating dilemma (Mezirow, 1978). Successive statements in the survey question described eight more stages until the last statement aligned with the final stage of perspective transformation, "I took action and adopted the new ways of acting".

Finding 11 participants who believed they had experienced a perspective change in their values, beliefs, motivations or expectations in connection with their professional learning was an exhilarating result of completed surveys. Teachers reported another person and the action research process as the main influences behind their perspective changes. This result aligned with the view that educator authenticity develops with experience and becoming more authentic is a transformative process (Cranton, 2016) and this may involve developing another's being (Cranton, 2016). Five teachers reported another person's influence had been a trigger for their changed values and beliefs and explained that as the influence they had received through the support of their team members. Eight of the 11 participants identified with Statement 1, having experienced a disorientating dilemma, and four of these participants identified with eight or more of the 12 statements relating to the 10 stages of perspective transformation.

According to Mezirow (1991a), a disorientating dilemma can trigger transformation. The dilemma may be an external one; an epochal life event or simply something that is eye-opening that contradicts with previously held or accepted perspectives. Seven responses to Survey Question 9 indicated no significant change in life, or any epochal life event, had

influenced their values, beliefs, attitude or motivation during the period of their professional learning. My interviews with teachers explored the nature of their disorientating dilemmas and these are explained later.

Teachers provided explanations in their extended responses to Question 11 about the action research processes that influenced their perspectives. Participant #1 referred to having research evidence to support his views which assisted him. Participant #4 referred to the team environment of the action research which influenced her attitude the most. Participants #3, #6 and #9 included being able to collaboratively work on the problem suggesting this allowed for greater breadth of ideas to be incorporated into the problem solving and led to changes occurring. Participant #8 recalled how the action research project led her to realise how passionate she was about teacher professional learning and how much she enjoyed research and working with different teams of people. Participant #10 offered he was able to more critically and objectively evaluate the process. Participant #11 said "it affirms that best practices happen within our community, but that we need to have enabling structures to see these best practices, to shine a spotlight on them, to question them, and in doing so, spend more energy on the actions with greater effect on the student learning". A common finding amongst the responses to Survey Question 11, was teachers' references to the team environment and the collaborative nature of the professional learning. This can be referred to as group support, where a cohesive learning group can provide its own social system that can facilitate personal transformation (Cranton, 2016).

Responses to Question 11 provided further insight into how the action research process was influential to changing participants' values and beliefs. Action research gave teachers an opportunity to act on finding a way to improve their problem through research, but it also gave them the context to act differently as a result. The professional learning created a different, or for some teachers, a new context to assess their values and beliefs. Mezirow was very clear that action is an integral part of transformative learning (Cranton, 2016). Essentially the theory is, if a person's perspective changes, it is difficult for the person not to act in response to the change. Applying the same reasoning, if people see the world differently then they act somewhat differently. The type of action that is taken will depend on the dilemma (Mezirow, 1997).

The teachers answered Question 11 by writing short responses. A common theoretical view is that an adult must act on a changed perspective for transformative learning to be complete. In my research study, one type of action by teachers included action research. One way of supporting actions is to help learners develop and implement action plans (Cranton,

2016). Groups of teachers, in response to their dilemma, carried out series of actions detailed in their action plans to understand or change their school or teaching practice. Seven teachers in Question 2 said they took action and adopted new ways of acting. They gave short responses in Question 11 that provided a little more insight. The action research initiative provided teachers with a context and an opportunity to act on their dilemmas (research problems). Teachers described the action research initiative as an enabling structure for nurturing best practice, a context for collaborative work on a problem and an environment for sustained effort through research. Teachers' responses aligned with the theories written about transformative learning and confirmed a perspective transformation can be the outcome of multiple conditions and processes (Donnelly, 2016).

5.1.3 Integrating the literature with the survey

Critical reflection and personal reflection were the most frequently reported action research processes that teachers described as the stimuli for their transformative learning. Their reflection, they said, had direct influence on them changing their conceptual understandings and values and beliefs. This is a significant finding simply in that it agrees with Mezirow (who) has always maintained that "critical reflection is central to transformative learning" (Cranton, 2016, p. 26).

Mezirow (1991a) theorised reflection may occur in relation to content or process and the realm of influence is on an individual's meaning schemes and a transformation in meaning perspectives is possible through a critique of that reflection. The importance of critical reflection is a common finding by researchers of transformative learning since "critical reflection is the process of transforming the (learning) experience to meaningful learning" (Tsai, 2013, p. 33).

Teachers' critical reflection may have assisted the development of, or their perspective of, their sense of agency as teacher practitioners since they were motivated to do action research to improve their practice and improve student learning outcomes. Critical reflection has been described as central to a social-emancipatory view of transformative learning (Taylor, 2008). However, the critical reflection of teachers in the context of this research was interpreted to be the reflection of the teachers on themselves as individuals not on any wider social change elements possibly occurring in connection with teachers' learning. In this way my study may appear to have what the literature calls "ubiquitous acceptance of Mezirow's psychocritical view of transformative learning" (Taylor, 2008, p. 7), since Mezirow's learning theory informs my foundational knowledge. However, my research does highlight the specific learning context for teachers involving them in action research and what this had to do with

teachers' transformative learning. Whereas the role of context received little consideration in Mezirow's psychocritical view of transformative learning (Taylor, 2008).

Merriam, Caffarella and Baumgartner (2007) cited in Tsai (2013), identified individual experience, critical reflection and development as the keys to transformative learning. The next most common triggers teachers described for influencing their transformative learning were the sharing of dialogue and the team-based action research. Simply stated, "discourse is central to the process" (Cranton, 2016, p. 27). My finding of a connection between critical reflection and shared dialogue in relation to transformative learning are consistent with others' knowledge in the field of transformative learning.

In her multiple research studies, King (2009) has found and described what she believes stimulates and contributes to transformative learning. She has found her results becoming more predictable (King, 2009). In my research, teachers' views, critical reflection, personal reflection, action research processes and working on a team project influenced their transformative learning. These elements directly correspond with what King described as the most effective facilitators of transformative learning namely critical reflection, dialogue, situated learning and relationships. It is interesting my findings have alignment with the elements described by King, apart from the slight naming variations. However, my research and King's have differences in context, cultures, opportunities, hurdles, demands and needs of the adult learners involved in our respective studies. It is important to reiterate that I did not set out with the theory of transformative learning already in mind for this research, although King has done so many times.

Sometimes the focus is on a practice of transformative pedagogy (Donnelly, 2016). This refers to a certain approach to teaching followed to encourage students to contend with something that is disorientating for them. Essentially, they can critically reflect on their assumptions to seek additional perspectives and ultimately apply new skills, knowledge or attitudes to achieve intellectual and personal growth. The action research in the professional learning opportunity was not delivered with any claims it was a transformative pedagogy. Teachers entered the project with a professional problem arising from their teaching and they were encouraged to critically reflect to focus on their learning and any assumptions about their practice. The action research cycles provided teachers with the opportunity to gain knowledge to solve a problem or to change their practice. The collaborative teamwork and shared dialogue ultimately supported their professional and personal growth. The action research context for teachers created ideal conditions for additional or new perspectives to take hold and for their transformative learning to occur.

5.2 Interviews.

5.2.1 Revisiting the interviews.

The survey findings suggested how changes in teachers' perspectives could result from their involvement in action research and what teachers believed the changes in their perspectives were associated with. However, to understand their conceptual understandings of their transformative learning, I needed to explore the teachers' responses to the survey in more detail through semi-structured interviews. The interviews provided me with rich details about the teachers' experiences and clarified for me what teachers believed was unique and significant for them as adult learners during their professional learning. Importantly, the teachers were able to describe richly what was transformative for them in their action research experience. Teachers were very open to sharing their stories and were overwhelmingly positive in their recollections of their experience and their reflections.

The interviews were conducted on school sites and a relaxed and informal approach was followed with a semi-structured interview protocol. The same protocol was used in all eight interviews with additional interview questions introduced where it was pertinent to explore teachers' stories to gather further information from them. Interviews varied only slightly in length and were around 45 minutes duration. The interview protocol for the one teacher with a PT Index score of 1 needed more changes made to it because her survey responses were different from the others and minor adjustments were necessary to phrase the questions to her accordingly. Interviews were recorded fully and without interruption and later transcribed exactly and completely, producing over 110 pages of interview transcripts containing more than 40,000 words. The transcripts were analysed, coded and themed. The three-stage coding process was finally selective for four themes in the interview data: awareness of beliefs, appraisal of assumptions, assessment of assumptions and new perspectives.

5.2.2 Interpretation of interview data.

Seven out of eight teachers interviewed responded 'Yes' in the survey to having experienced a time in the period 2010-2014 when they realised their values, beliefs, attitude, motivation or expectations had changed, during or after their participation in the action research for their professional learning.

The transcripts of the interviews were open-coded to understand participants' experiences of perspective transformation and any transformative learning occurring for them. How participants communicated their feelings about their values and beliefs was important to answer the research question. The coded interview transcripts were explored for relationships

by analysing the coded extracts of words, phrases and sections of text from participants' interviews. Extracts had been coded and assigned to categories through the emerging parent and child nodes used in the open and axial coding processes.

Mezirow's (1978) 10 stages of perspective transformation begin with learners experiencing a disorientating dilemma. So, a situation or context was looked for in participants' accounts and throughout the analysis of the interview transcripts that could aptly be identified. Participants' interview transcripts contained evidence of disorientating dilemmas with social dilemmas connected with relationships being the common trigger. Social dilemmas were described by participants as difficulties in working collaboratively, interacting with their team, working in a collaborative team, working with other teachers and for one participant, working with students. A participant provided more elaboration. "It was more about trying to work in the team and trying to get the team to be all on the one page and get our team willing to work together. There was the challenge that teachers worked on different year levels, so none of us were used to working together, particularly not on one project like this. It was literally putting people together out of the cold and even though we knew each other, we hadn't really shared on that more intellectual level".

Successfully working with people, particularly in a learning environment, typically requires cooperation, acceptance of differences and effective communication. Participants described many of the challenges they experienced working together with other teachers and there were many examples of participants' self-examinations of their thoughts during their interviews where they shared how they managed the aspect of collaboration in their teams on their professional learning journey.

A teacher recounted, "We all had a shared process, so it actually provided a process framework in which to work so we all came in with different ideas, but we did it in a similar way. We all did it at different rates. There were times where I thought we were going slower than other people and other times that we seemed to be speeding through". The interviews considered together led me to interpret that the project pulled teacher teams together and this was summarised by one teacher. "I know that with our team, the four of us have very strong personalities so we had to develop a good working relationship first, before we could actually get further. Like any team, there were issues, but it helped us with our problem solving (by thinking), so we've hit this wall now, how are we going to get around it?".

Five participants acknowledged the social benefits of working in a team. They said it was a practical way of working with others and that there was a power realised in the shared and common language, in contrast to working individually on a project. One participant

expressed the social challenges of working together in a team. A participant's reflection of her own self-examination revealed the action research had encouraged her to make sure she was connecting with more with people, and her leadership skills had grown because of her involvement in a team, she said.

Other triggers for disorientating dilemmas (Mezirow, 1991a) for participants were the level of perceived trust or lack of trust and competitiveness amongst the teachers in their team. Some participants believed the professional learning experience created a context for teachers to become more open, more vulnerable and more curious about what effective teaching and learning is. Teamwork and shared dialogue were considered not negotiable for teachers engaged in the action research. The teams were collaborative to varying degrees depending on their working relationships with each other. So, it seemed these elements were an early stimulus for disorientating dilemmas (Mezirow, 1991a) for some teachers and therefore the professional learning situation was a potential catalyst for participants' transformative learning.

The reflections shared by the interviewed participants explained much of what the experience of action research was like for the teachers involved. Many participants emphasised how supported they felt and explained how encouraged they were as adult learners. The support came from their school leaders, their research mentors and the project facilitators and in some cases, they included other members of their team as supports to their learning. One participant said she felt "encouraged to fly" with the support she received from the facilitators.

Although some teachers expressed how they came to the project through a process of assignment by their school leaders, others had come to the project with a strong sense of their commitment and ownership of their professional research problem. One teacher said "I put my hand up, I actually want to do this" while others acknowledged they had a huge role to play in developing their research because they wanted to contribute to the solution and to their school enhancement.

The action research and professional learning was described in many ways through the interviews, but it was not directly coded under a node dedicated for this purpose, explained earlier as a coding anomaly. In summary, it was for some teachers, a process, and for others it was a journey, a struggle or a reinforcing moment in time. For most it was a discovery period in professional learning. They learned about themselves as learners and about team relationships. Collectively, they learned about education and teaching practice and how it all fitted together in their action research inquiry projects. Teachers had many perspectives of the

action research process and the elements involved, and in the majority, teachers shared positive reflections on their experience.

Teachers communicated their affect in the full range of human emotions from being full of fear to begin with, to being full of joy after completing their action research in a team learning environment. Participants made many affective associations both positive and negative in roughly equal measures. Participants had voiced having some professional insecurities to begin with which accounted for their fear. Positive feelings were in the vast majority with participants who spoke of their positive attitudes at the opportunity to begin research, and of the positive influence of the people around them in their collaborative teams. Their overarching positive feelings of confidence and other motivating factors were associated with their action research.

Over time participants explained how they became aware of their perspectives beginning to change and some explained this explicitly in terms of their values. "I did question my own (pause…….) what do you call it? My own attitude and my own perspective and if I thought I was a collaborative person and a person who had those values of working in a team, then I needed to be sure that I was modelling the acceptance and the patience and those kinds of values that I was expecting from everyone. I needed to be showing that I have those (values) too and I needed to be believing in myself as well, that we could do this."

Participants expressed some broad perspective changes around how they saw themselves as teacher practitioners. "I believe that my beliefs about how teaching was conducted changed as I was starting to reflect on my own teaching, I started to change the way that I believed teaching should be". Another teacher shared, "If someone believes that what you have done is not just good, but good enough to help others, to empower others, then that is a bit of a mind switch!"

Participants expressed their feelings of empowerment both explicitly and in more indirect ways. A participant detailed, "I think it was a good experience. I think knowing that when you work in a team or when you work on a project that it gets better, (and this) gives you the resolve to hang in and tackle new things and to know that it's not going to be roses, or whatever in the beginning. You expect that there is going to be a rough patch, but you know that if you hang in there and keep persevering and you keep working together eventually it will get better. So, I think for me it was important to persevere and to be more resilient in team collaboration".

Other participants spoke of their roles in change management, of changed practice, of gaining a passion for and interest in research while others explicitly spoke of their

empowerment through the professional learning. A teacher spoke of their empowerment in a changing role, ""I was able to have quite a positive impact I think as a school leader. If somebody believes that what you have done is not just good but also good enough to help others, or empower others, that was something, it was a bit of a mind switch." Another teacher shared their sense of empowerment simply as, "I matured as an educator." Another participant shared their empowerment through action research working with a team as, "Research with a team is a very different experience to doing research by myself and I realised that other people have the same questions as me, and that we could explore these together. That was quite empowering." Several teachers shared their feelings of becoming stronger and more confident. Empowerment was interpreted in "My changing values and beliefs were constantly changing, I think it wasn't until we started coding our journals, that I started to realise it had an impact in what the students were gaining from the way I was doing things." Feelings of empowerment were shared in indirect ways; "So, my whole expectations around myself have escalated and changed again and again. I have moved on with higher and higher expectations of myself to deliver." Teachers related empowerment as changes in their thinking; "That was shifting the way I was thinking about my own learning, but also the way that teachers could learn together and how it was actually going to have a huge impact in the classroom."

Participants liked using metaphors to describe their professional learning journey through action research. One participant confided, "I was swimming in the action research pool without my floaties on". This participant described the professional learning as being transformational at the beginning of her interview. Her affective associations included how it made her feel very good and it was so much more powerful when she affirmed for herself, she was doing the research out of common sense. She believed she had shown courage in going forward to get the evidence she needed. She said with pride about her team, "We haven't looked back since then."

The influence of possible life-changing events on perspective transformation, revealed through the survey responses, was explored in the Phase Two interviews. Four of the participants interviewed identified in their survey responses that a life-changing event occurred during or after their participation in their professional learning that they believed had some influence on the change in their values, beliefs, attitude, motivation or expectations. The nature of the so-called life-changing events was explored and found to be related to professional change events and were not typical of commonly accepted life-changing events such as marriage, divorce, separation or death of a loved one.

Several of the participants attempted to describe their transformation. One participant stated, "the learning I went through in that process was phenomenal and I'll say transformative because it was transformative". It was reaffirming for others that personal transformation and personal growth happens when effective teams are formed, and teachers are engaged in a research process including reporting back to the group, capturing artefacts, capturing moments in a reflection journal and sharing their professional learning regularly. The axial coding allowed for the complexity of participants' responses in the interviews to be assigned to nine parent nodes. The parent nodes were Conceptual understanding, Experience, Affect, Sense of self, Revised perspectives, Transformative learning description, Action research perspectives, Action research and Transformative learning and Unfolding transformative learning. Participants' interviews provided a wealth of information to generate many child nodes for consideration in the analysis.

Socialisation, Triggers, Support, Encouragement, Ownership, Positive attitude, Empowerment, Values, New actions and Negative fear were some of the 32 nodes in the open coding. The axial coding reduced the number of categories to nine parent nodes and these were selectively coded to answer the research question through a synthesising process of reducing the coding structure to identify and interpret the more dense, concept-based relationships (Cohen et al., 2009) within the interview data.

Eight interviews constituted Phase Two of the data collection. Seven of those interviewed experienced transformative learning through their professional learning experience. In the interviews, teachers expanded upon their survey responses, articulating their awareness of their own learning and their critical reflections. A teacher shared,

> "Now I have come to the understanding that research is part of the everyday practice that is not an add on, it is part of what we do. I think because I unpacked and looked at things differently, that I found that I had to change my practice, otherwise if I continued to do what I was doing knowing that I could be doing a better job, I wouldn't consider that ethical. If somebody believes that what you have done is not just good but also good enough to help others, or empower others, that was something, it was a bit of a mind switch." (Extract from SH#2 Interview)

Teachers were eager to discuss their experience in action research and all of them had a positive story to share. A teacher revealed:

> "I learned, through the action research project, that teacher reflection is highly important. Not only reflecting on the actual content taught but the reactions of the students. Critically reflecting, I found was a skill I had to learn and it's one thing to

> reflect, but it's another thing to reflect critically and to make meaning of your reflections. The reflection, I think is the most significant. Reading back over my reflections, I know that they did evolve through the process. So, at the beginning when I looked at my reflections, they were more like observations, so I know that after you had run sessions about critical reflections, I could see a change in the way I was reflecting. Being able to reflect on what I was doing in the classroom enhanced my work as a teacher. (Extract from interview with KR#11)

In the interviews, teachers reflected deeply on the periods during and after their professional learning. They all described an experience of a deep shift in their perspectives which they attributed to their action research experience in different ways. The transformative learning theory allows for a paradigm shift or perspective transformation to occur in connection with multiple conditions and processes (Donnelly, 2016).

The common narrative across the interviews was that teachers had a vision to improve their practice and all felt they had managed to achieve their vision through their action research. It was obvious from the interviews, that although the action research finished several years ago, these teachers were still highly motivated and had their sights set on achieving their goals, some of which were laid down at the time of the action research and were ongoing for some teachers. They were aspirational teacher professionals and inspired to make a difference through teaching. They had a strong belief that they could do so. The teachers' sense of personal and professional transformation involved them having clarity about their work and their future directions with overall feelings of empowerment which they described fully. For example, a teacher shared:

> "I think had I not done the action research, I would have kept going the same way that I was teaching, because I thought it worked but it was a very egocentric way of teaching because that was how I was taught to teach. So, by doing the action research it is more of a student-centred learning now in my classroom and I'm willing to try new things, you know in a project-based learning environment learning. Those sorts of things. As a result of the action research project, I have actually changed in the way that I work with my team back at school and so I think that was a very valuable project."

Their belief in themselves was energising to observe. The teachers had thought about their learning during and since the action research, very deeply, and they were confident in their outlook as teachers. All of them had a vision for their teaching moving forward and were keen

to make a difference. Several of them had completed further formal studies and reached higher qualifications since the action research.

Several themes were identified throughout the interview transcripts. Reflections about action research were the dominant understandings shared by teachers during the interviews. Teachers' sense of self was expressed and highlighted where teachers believed they had personally changed and where their new perspectives were associated.

A parallel was made with another research study by King, involving hospital workers researching their training program (King & Heuer, 2008), she noted that a type of learning was associated with profound effects in both the workplace and in the learners' lives. Superficially, the hospital workers' context appeared somewhat like the teachers involved in the action research in my research context. In common with the teachers in action research, the adult learners in the study of hospital workers were placed in heterogenous groups to work together to complete their professional learning in connection with their everyday work practices. Co-ordinated and carefully planned training sessions offered in a series were found to produce radical transformative learning which could change communication, workplace behaviour and lives of the adult learners (King, 2009). King identified "learner-centred training, focused on collaborative teams and invested in problem-based learning provided a basis for dramatic personal and collective change" (King, 2009, p. xxv).

Similarities to King's study of hospital workers, can be drawn in the action research for teachers' professional learning. Both created a learning environment that was learner-centred and problem-based. The teachers researched their unique practice-based or school-based 'problems' with a team of their colleagues and had to focus on collaboration as a primary condition for achieving success with their team in the action research. King and Heuer's (2008) research found that dramatic personal and collective change was the outcome for the group of hospital workers who came from minority groups, had minimal education and who were mostly immigrants. King described this group as habitually marginalised both in their work and in mainstream society. Emancipatory goals for adult learning are included in the literature (Cranton, 2016) but such a goal was not a consideration in the professional learning for teachers or in my research.

The profile of hospital workers in King and Heuer's (2008) research contrasted with the profiles of the participants interviewed for my research study. Five participants had master's degrees and two had post-graduate diplomas. They included classroom teachers, school leaders and heads of departments and the learning contexts are somewhat similarly structured with personal and collective change occurring. The outcome for the hospital

workers suggests that the level of education, degree of hardship or language skill does not reduce the potential for transformative learning to occur. As King alludes, all adults share the capacity to experience the impact of transformative learning (King, 2009) and "by nature, people are interested in self-knowledge, growth, development and freedom" (Cranton, 2016, p. 10).

Throughout the interviews, teachers presented as empowered from their learning experience and expressed feelings of having grown as professionals. Teachers' attitudes were positive about their learning experience and all had a positive and highly motivated disposition during the interviews. Some teachers shared explicitly how the professional learning motivated them at the time of the professional learning. Teachers shared freely where their perspectives had changed and what they thought they had gained from the professional learning that was contributing to their changed perspectives. The opportunity to collaborate with other teachers featured as a strong contributor to their changed perspectives. Teachers made many affective associations throughout the interviews to their action research experience describing in emotive terms their feelings ranging from fear to joy. Teachers' personal reflections included metaphors to describe their learning journeys and their authentic stories explicitly included their new ways of acting and changed values since their professional learning. Each teacher had a unique story and was highly motivated to share it.

There are different definitions of transformative learning and Donnelly (2016) recognised that the definitions can be problematic. Donnelly (2016) cited a definition of transformative learning, describing it as most illuminating. There is some correlation in the definition to what teachers described.

> Transformative learning involves experiencing a deep, structural shift in the basic premises of thought, feelings, and actions. It is a shift of consciousness that dramatically and irreversibly alters our way of being in the world. Such a shift involves our understanding of ourselves and our self-locations; our relationships with other humans and with the natural world; our understanding of relations of power in interlocking structures of class and gender; our body awareness, our visions of alternative approaches to living; and our sense of possibilities for social justice and peace and personal joy. (O'Sullivan, 2003, p. 203)

My interpretation of the interviews is that for some teachers the action research in a collaborative team environment made an irreversible difference to them as individuals and as teacher practitioners. The professional learning changed their being by leaving them feeling empowered and energised to reach higher goals for themselves both personally and

professionally. Their personal journeys described a universal feeling of success and empowerment and this did not depend on their teaching roles, gender or their assessment of themselves as teachers. There were some teachers who were leaders at their schools and some who were classroom teachers. Some expressed their personal insecurities; "The idea that I didn't need to rely on the idea of a systematic review or somebody else to do the research, that I actually could be part of the process as an educator as somebody working with kids in terms of actually analysing what I'm doing." A few participants didn't think they had had much of a voice in their school before their action research experience; "So, my whole expectations around myself have escalated and changed again and again. I have moved on with higher and higher expectations of myself to deliver." The seven teachers interviewed believed they were successful in their teaching and some had completed further studies since their action research. All thought they had changed values and perspectives, in their unique ways, triggered by their action research experience. "I was an active participant and I think that has really changed my perspective a lot". All seemed to have reached a sense of equilibrium and their personal joy was conveyed through their energy and overall positivity for their work. For example, "I saw the value of teachers actually doing research for themselves, for me to be actively involved in research rather than being told this is what research says and here go ahead and do it."

"Looking at how I could implement that myself, in my own work was tremendous." A teacher summed up her feelings of empowerment as "it gave me the courage to go forward, it gave me the evidence to go forward and I haven't looked back since."

5.2.3 Integrating the literature with the interviews

The interviews were a rich source of teachers' stories about their unique learning journeys through a professional learning experience. The interviews provided the opportunities for teachers to reflect again on their learning and to share what was important to them. They recounted it was the support, the personal reflection, social context, and the advancement they felt as professionals with their increased understanding of their practice that were drivers for their perspective change and overall transformative learning outcomes.

Mezirow (1978, 1991a) focused on rational thought and reflection as the central processes in transformative learning. Overtime, theories have developed to incorporate different views of what transformative learning is. My findings from teachers' accounts connect with the developmental thinking that has occurred overtime to include a more holistic view of transformative learning including the role of context so that transformative learning is seen as being contextually-based and journey-like, as a period of transition is part of the

process. Transformative learning is seen as developing in a social environment (Cranton, 2016). In other development of theories, transformative learning has also been described as soul work and has been linked to spirituality (Dirkz, 2001).

Some teachers were intrigued to know, after the completion of their interview, that the focus of my research was transformative learning and I could see the lights turn on in their eyes as if they had a name now for what they had already described had happened to them. The most significant aspect of the interviews was the authenticity expressed in teachers' accounts of their transformative learning journeys. The next most significant aspect for me was the absolute privilege to share in and to gather their stories for my research record. The overall significance in the findings was that teachers had conceptual understandings of their transformative learning. They had started out with a disorientating dilemma, that brought them to action research initially, and could recount the meaning of their experiences and articulate how they had reached a changed perspective drawing upon their full range of emotions as they recounted their learning experiences.

5.3 Example Case.

5.3.1 Revisiting the example case.

The experience of one teacher exemplified and personified the transformative learning possible for teachers in connection with the professional learning and the teacher's case was used as an illustrative example of teachers' transformative learning. The data was gathered progressively from her responses to the survey and from her sharing of detailed information in the first interview about her experiences in the professional learning. I explored her specific case through an extended interview. In an in-depth way, the teacher was able to explain her experience in ways I could identify with from my reading of the literature. As she spoke, what I had come to understand as transformative learning came alive before me. Her story had many elements in common with the Theory of Transformative Learning (Mezirow, 1978). Not only was the teacher very intuitive about her adult learning and development, she also had a clear perception, a sense of self, around her transformation. She explicitly described her learning as a transformative experience which she felt was in some ways spiritual. She was the only teacher interviewed who used the terms transformative and spiritual spontaneously to describe her professional learning. However, and somewhat perplexingly at the outset, she was the only teacher interviewed who did not think the action research process had something to do with her transformation of perspective. She presented a unique and interesting example case to explore further.

5.3.2 Interpretation of example case data.

The teacher likened her transformative learning to a personal evolution; connected to her heart and soul. She described it in relation to her affect, including elements that encapsulated a humanistic view. Her affective responses included her feeling disillusioned and fearful at times and later feeling excited, brave and appreciative. She spoke directly about her emotions, her feelings of strong commitment and her belief in what was important. In her view, learning was all about emotion. Her description of her adult learning went beyond the theorisation of Mezirow. More recent views on a theory of transformative learning merge the humanistic and emancipatory perspectives and include social change ideology, in contrast with the theoretical approaches popular around the time of the early work by Mezirow (Cranton, 2016). A unified theory of transformative learning (Taylor & Cranton, 2012) can account for the aspects the teacher described in her transformative learning, including the spiritual connections she made to it. Her transformative learning included emancipatory overtones when she considered her mandate going forward as a teacher ready to challenge the status quo at her school. The teacher associated her professional learning with her gaining a sense of courage, empowerment and enlightenment that was transformative. She shared, "so that made me feel very good obviously, but it just made it so much more powerful when I thought ok, I'm doing this out of common sense, it gave me the courage to go forward, it gave me the evidence to go forward and we haven't looked back since." She recounted that shared dialogue, team and facilitator support, and reflection were important to her learning. Her perceptions of feeling and being came together as she recounted her professional learning being about engagement as much as it was about the challenge to her as an adult learner. It was interesting that she perceived herself as different to her colleagues, who she believed didn't need to change. Her perception of this perhaps suggests that she felt she needed to.

5.3.3 Integrating the literature with the example

The example case was illustrative and significant because the teacher's experience included transformative learning elements in common with other teachers in my research, but her transformative learning was uniquely different, confirming a basic understanding in transformative learning theory that different individuals engage in transformative learning in different ways (Cranton, 2016).

The teacher, as the example case, personified transformative learning. She had integrated new values to transform her thinking about herself as a teacher and as a person. She believed the trigger for her transformation was the professional learning opportunity but not the action research process that she had engaged in. This is significant as the teacher

articulated the two dimensions underlying the different perspectives on adult learning (Cranton, 2016). One dimension being the individual to social aspect and the other as a learning process that a type of knowledge comes from. These two dimensions simply described here present the two dimensions that can describe transformative learning. One view involves the individual or humanistic development of a learner and the other is about critical perspectives and social reform.

Cranton (2016) has written about the different types of learning: technical knowledge, practical knowledge and emancipatory knowledge. The example case is significant because the teacher was able to illuminate her conceptual understandings of her transformative learning in practical, technical and emancipatory ways. Her process learning, the instructional and technical knowledge, was discounted as she did not believe the action research process was responsible for her transformation. Her feeling about the communicative aspects of her learning were important as she conveyed her understandings of the importance of feeling supported but overall, it was her emancipatory learning that was at the core of her transformative learning. Her transformation was described in both affective and cognitive terms. Her changed sense of self was evident in the way she described herself as a teacher practitioner. She described her epistemological shift in her core identity. She spoke about how strong she had become, with the courage to teach the way she believed she should.

Cranton (2016) mentions individual differences in transformative learning and made connections with theorisation on psychological type (Jung, 1971). The transformation for the example teacher encapsulated both her thinking and her being. She described the changes in herself in emotional, physical, professional and spiritual ways. Her references to feeling changed spiritually were significant and suggest my research connects with the theorists proposing ideas beyond those of Mezirow. Her responses were spontaneous throughout her interviews and authentic. The teacher saw teaching as her mission, although she confessed to almost leaving the profession, such was her overwhelming sense of a disorientating dilemma before she commenced her action research. For the teacher, her work was close to her heart and soul: her passion. The teacher described her transformative learning in terms of having gained a changed sense of identity. For her, transformative learning was a deeply personal experience. The shift in her epistemic assumptions can be thought of as the consequence of her soul work (Dirkx, 2001). With the teacher's focus on herself she was able to make the distinction between her team-based professional learning opportunity and the "cacophony of what is happening around us" (Dirkx & Mezirow, 2006, p. 126). In the teacher's case, the action research activities were the cacophony but she was able to focus on her sense of

identity as a teacher practitioner and this is what made her unique as the example case. Her professional learning was a deeply personal, significant and transformative learning experience for her.

5.4 Major findings.

There are seven major findings from my research. Major findings 1-3 align with the current literature and Major findings 4-7 make a significant contribution to the domain under study.

My major findings are:

1. Teachers' perspectives changed during and after their involvement in the professional learning.

The teachers described their experience of the professional learning in detail and how their perspectives of teaching and themselves as teacher practitioners were influenced. Their perspectives changed during and after their involvement in the professional learning and they credited this change to a range of contributing factors including the support and social engagement they experienced during their undertaking of action research projects.

2. Affective associations were made and described in relation to the professional learning experience across the full spectrum of human emotion from fear to joy.

One participant interviewed had elements of a perspective change but did not experience a perspective transformation. The reason for this was interpreted as her focus on gathering knowledge from sources external to herself where other teachers critically reflected on their knowledge to shape their learning and gained a changed perspective of themselves as teacher practitioners.

3. Engagement in action research for teachers' professional learning can lead to transformation learning for teachers.

Action research can lead to transformative learning for teachers through mechanisms of shared dialogue, support, socialisation, and critical reflection and teachers in this study experienced transformative learning in seven cases out of the eight teacher cases interviewed.

4. Transformative learning experiences unfolded in unique ways for teachers.

The teachers in my study reassessed their values over time and self-reflected on their adult learning. Transformative learning experiences unfolded in the social situations created in team-based professional learning. The time spent in action research gave some teachers the added opportunity to reflect on themselves as teacher practitioners.

5. Teachers had an overwhelming sense of their personal growth and professional achievement that they attributed to their action research.

Teachers described their transformation in terms of a changed sense of self and had changed views about research as an ongoing, aspirational professional activity. Several teachers in my study revealed they had commenced further studies involving higher degrees by research to continue to influence in their professional careers moving forward. Teachers' conceptual understandings of their transformative learning were difficult for some teachers to express however they all articulated their overwhelming sense of personal growth and professional achievement that they attributed to their action research and their professional learning.

6. Teachers described a sense of self in their conceptual understandings.

Teachers described their sense of self feeling stronger since their professional learning experience because they could speak reflectively about their values, beliefs and feelings.

7. Transformative learning can occur spontaneously in socially, supported situations created for team-based learning.

Through my exploration and interpretation of teachers' accounts, transformative learning can occur spontaneously when teachers critically reflect on their professional practice in shared dialogue with their colleagues.

5.5 Minor findings.

There are three minor findings from my research. Minor finding 1 aligns with the current literature. Minor finding 2 makes a significant contribution to the domain under study. Minor finding 3 challenges the literature.

1. Having an empathic facilitator as a mentor is an influence for some teachers in their transformative learning.
2. Journaling of reflections is not an essential trigger for transformative learning.
3. The action research process may not be a facilitating activity for teachers' transformative learning.

5.6 Significance.

5.6.1 Significance of the survey findings.

The adapted LAS survey (King, 1997) was needed to identify teachers with perspective change following their professional learning experience. It was important as the initial mechanism used in my research to seek out teachers' conceptual understandings. The survey findings were a beneficial contribution to extend knowledge as they revealed a phenomenon was occurring for teachers, albeit a small group, that needed further exploration and explanation. The survey findings gathered from the group of teachers are significant because they indicated the incidence of perspective change and the potential for

transformative learning amongst the group may have been greater than was possible to explore in this research study.

The survey revealed 11 out of the 14 teachers who responded experienced a perspective transformation and this is a contribution to extend knowledge about the group of teachers in my research study and their professional learning outcomes. Ultimately, the scope for my research and my overall interpretation of teachers' transformative learning was limited by the number of teachers who gave survey responses in Phase One and who also consented to be interviewed in Phase Two of the research. Six teachers in total identified with a PT Index 3 who were of interest for further analysis in the Phase Two interviews because their responses indicated a perspective transformation arising from their professional learning experience. Only four of them consented to be interviewed. Another five participants were assigned a PT Index score of 2 or 3 because their survey responses indicated they had experienced a perspective transformation, that was possibly in connection with their professional learning. Only three of them consented to be interviewed.

5.6.2 Significance of the interview findings.

The interviews were needed to gather teachers' own explanations of their conceptual understandings and affect concerning any transformative learning following their team-based learning.

The interview findings contributed to confirm and extend knowledge as the teachers described their conceptual understandings of their professional learning with respect to the uniqueness of it, in their professional experience. Teachers shared that the triggers for their feelings of empowerment had arisen from the unique context of having undertaken team-based action research for their collective professional learning. Their realisations included that their individual perspectives had changed because of it. Teachers explained their transformative learning and gave multiple conceptions of how it occurred, including references to the importance of their team-based relationships, including the trust, support and encouragement they felt during the process.

The interview findings were important to establish any alignment between my research and the research field. Teachers described their experiences of perspective transformation and their interviews revealed the teachers understood their changing perspective in ways consistent with the theoretical orientation of Mezirow and his stages of perspective transformation. What teachers revealed in interviews of their experience and what they valued, affirmed an underlying view in Mezirow's theoretical framework that a safe and inclusive learning environment where learners' needs are addressed and where experiences

can be built upon is important for transformative learning to occur. My interpretation of the interviews was informed by Mezirow's theoretical view of transformative learning (1978, 1991a) including the stages of perspective transformation. In further alignment with the research field, my interview findings concur with Taylor and Cranton (2012) that "transformative learning does not happen in a vacuum solely through the free will of an autonomous learner; rather it is contextually bounded and influenced by relationships with others" (p. 44).

The interview findings were beneficial and significant as teachers' stories reveal the mechanisms that could foster transformative learning in the future. The interview findings draw attention to what is unique about the professional learning from the teachers' perspective and this is new knowledge with implications for fostering transformative learning for teachers. This is important because Taylor and Cranton (2012), suggest more research is needed to explore collective transformation among adult learners including a need to identify the influencing factors in the process of transformation. According to Taylor and Cranton (2012), "little attention is given to what is unique about (these) settings and the implications for fostering transformative learning" (p. 40). Taylor and Cranton see future research into the uniqueness of settings for adult learners could have implications for fostering transformative learning in the future. However, teachers' unique views on the role of context, relationships and in one case, feelings of spirituality, suggest there is room for theoretical growth to lead to a more integrated view of transformative learning theory as Taylor and Cranton (2012) suggest. Since transformative learning was found to be the outcome for seven out of eight teachers interviewed, the unique individual stories importantly confirm transformative learning is individually different for teachers even though they have experienced the same adult learning context with similar learning objectives.

The interview findings suggest the nature of individual learning is central to transformative learning, but that many other factors play a role in any transformative learning outcome. These findings could impact the research field and influence others to learn more about the intricacies of transformative learning for individual adult learners.

5.6.3 Significance of the example case.

The example case is significant for its illustration and illumination of one teacher's transformative learning and sense of self with the teacher describing a spiritual connection to her transformative learning. It is a contribution to extend knowledge that enacting action research may not be enabling towards transformative learning. This view corresponds with Mezirow (1991a), that "not all learning is transformative. We can learn simply by adding

knowledge to our meaning schemes or learning new meaning schemes with which to make interpretations about our experience" (p. 223).

The teacher confided she had considered her perspectives at the start of her professional learning and felt she needed "to take a good look" at herself and had an idea that something needed to change. She was the only teacher interviewed who explicitly stated that her professional learning was transformational and who made a spiritual connection in her transformative learning. "You know the learning that I went through in that process was phenomenal and I'll say transformative again because it was transformative", she said. The teacher also stated, "the conceptual idea of action research had a phenomenal influence" on her. She communicated her experience of professional learning with affective associations, with statements about holding fears initially, but with having feelings of joy by the end of it. When asked if her transformation was enculturated in her sense of self now, she responded with "Yeah, I'm living the dream". The teacher was the only interviewee who did not credit the action research process for her transformation. Instead, she associated the making of her connections with a body of research, the encouragement from the facilitators, and the support that she received, as the triggers behind her transformation. She recalled her school leader had encouraged her and gave her "courage to go forward" with her "common sense idea" as she called it. For her, the supportive community created amongst the professional learning milieu with other teacher professionals engaging in action research was an enabling, unique context for her transformative learning.

5.6.4 Overall significance.

The overall research significance is the new knowledge that transformative learning can occur spontaneously in socially, supported situations when teachers can critically reflect and share dialogue. Teachers' transformative learning was significant for them in changes in their interests, problem awareness, critical reflectivity upon their own values and beliefs, and open willingness to take relevant actions to further their professional practice. The action research for teachers, as a professional learning opportunity for teachers, was not purposefully designed to foster their transformative learning, although eight teachers described the phenomenon of transformative learning occurring for them in connection with the unique, professional learning context. The interview findings draw attention to what is unique about the professional learning from the teachers' perspective and the implications for fostering transformative learning for teachers that is new knowledge.

My research is significant as it confirms and extends knowledge aligned with the basic tenets in the philosophy of adult education (Mezirow, 1991a) through the finding of teachers' conceptual understandings of their transformative learning in a team-based learning experience. Mezirow described an ideal learning environment (Mezirow, 1991a, p. 224-226) for adult education. The professional learning conditions created for the teachers for their action research projects inadvertently mirrored many of Mezirow's propositions. The conditions for teachers included a professional community that was inclusive and reflective for their participation and discourse wherein they could address their real interests and school-based needs. Teachers were supported to set action research objectives and to act on their insight gained from their shared and critical reflection. Collectively, these conditions created the ideal conditions (Mezirow,1991a) for adult learning and for transformative learning. Teachers as adult learners, were self-guided, critically reflective, participated in action and rational discourse and were engaged in communities with collateral responsibility for their action to solve a school-based problem. Teachers interviewed in my research study expressed their overarching feeling that these features were honoured and fostered within their professional learning experience. Many theorists of transformative learning have written about the role of the educator, or learning facilitator, as contributors in the overarching potential for transformative learning to occur. Cranton (2016) described meaningful group processes which include support and encouragement where learners have a trusting relationship with their facilitator, as potential situations where people's assumptions and beliefs can be challenged.

In the research field, core elements associated with transformative learning include critical reflection, dialogue, and authentic relationships (Taylor, 2009). There were plenty of opportunities for teachers in their professional learning to engage with other teachers in authentic, team-based and professional relationships, with critical reflection and dialogue about their action research and teaching contexts during the 12 months or more that teachers worked to complete their action research projects.

Finding teachers with transformative learning outcomes from their professional learning was a personally affirming and significant aspect of my research study for me as one of the professional learning facilitators who supported and encouraged the conditions for teachers' professional learning that were transformative for some teachers.

Chapter 6 DISCUSSION and CONCLUSION

6.1 Introduction.

My interpretation of the data came about progressively and sequentially through the course of my research. So, it follows that my discussion of the research in this chapter has the same sequence as the research design and interprets the findings and their significance according to the order in which they were gathered. To contextualise the discussion, I revisit the context and conceptualisation of the research through references to the literature on the topic and follow the sequence of the data collection to frame my growing understanding of the topic and interpretation of my research. The literature is integrated and interpreted for each of the phases in the research design. I relate my interpretation of findings to the recent work of others. The research questions posed in my introduction to the research are answered in this chapter. The answers to the sub-questions 2-10 lead to the answer to the central research question. Connections are made to the work of other researchers and the theoretical framework. The significance of the findings is discussed in three sections in this chapter, sequenced according to the phase of the research in which the data was gathered. This chapter includes limitations of the research and the overall significance summary. Future directions for research are listed and finally I conceptualise my own transformation as a researcher and facilitator of teacher professional learning at the end of the chapter.

6.2 Revisiting the background.

Some teachers recounted feelings of changed perspective in connection with their action research in team-based professional learning and I wondered if a changed perspective occurred for more teachers and if so, in what ways. Teachers reporting similar experiences would suggest a phenomenon existed. I needed to uncover and explore any underlying process supporting the phenomenon. How teachers described any process of perspective change because of their teacher professional learning using action research that appeared to influence changes in their perspective, was not understood. I wondered whether the benefits for teachers with which it was associated might be outcomes of a transformed sense of self that had an affective connection, possibly connected with perspective-change, from teachers' experiences in team-based action research. I was excited by this possibility and by King's (2009) theorisation that, "it is as if transformative learning experiences provide the learners with an entirely different set of lenses to view themselves and their world" (King, 2009, p. p.xx). I problematised my wonderings into research questions. My qualitative research, survey, interviews and an example case, were the means to explore the research problem underpinned by a central research question and nine research sub-questions.

Part of my pragmatic approach to the research has been to continue to explore the extant research literature for further insights into my findings. My knowledge and awareness of the intricacies, popularity and influence of transformative learning has continued to grow. New insight is offered in this chapter through an interpretation of my research findings in the light of the intersection found between them and the literature.

6.3 Revisiting the context.

The context for the teachers in my research study was their action research experience for their professional learning. The context was an original one for the teachers involved and also for my research study of any transformative learning occurring for teachers in relation to their professional learning experience. The context is now understood to have presented facilitating factors for teachers resulting in the transformative learning outcomes for some teachers. Context is important in the interpretation of my research. However, it is important to note that some aspects which may relate to the context for teachers, such as their past experiences or their cultural experiences or any discrepant experiences leading to their reflection (Taylor & Cranton, 2013) were not part of the focus in my research. It could be inferred that the context intentionally set a course for transformative learning to occur, however transformative learning was never a consideration in bringing teachers together for their professional collaboration and learning. My perspective is that adult learners and their educators are not neutral (Taylor and Cranton, 2013) but the focus for the professional learning facilitators in my research context was in supporting and encouraging teachers to critically reflect throughout their action research to improve teachers' practice. Facilitators did not intend or expect to change teachers at the core of their being.

What was already known about teachers' learning at the outset of the research was from my experience of working as a facilitator with teachers during their professional learning. Teachers worked through an action research project for a year, sometimes longer, to address their identified school-based problem, to improve their practice and ultimately improve student learning outcomes. Unexpectedly, some teachers appeared to integrate their professional learning with a sense of their changing beliefs and perspectives. What I know now has come from my review of the literature to interpret my findings, to understand the fundamental elements of transformative learning and how my research relates to the ongoing evolution of the transformative learning theory.

My research involved the collection of survey and interview data from teachers in connection with their experience in professional learning. The data revealed conceptual understandings of the teachers arising from their action research activities. My research

method allowed me to separate a small group of teachers with changed values and beliefs. The survey and interviews were analysed to understand how the teachers communicated their learning. Teachers' emotions and feelings were prominent in their accounts when communicating their transformative learning.

6.4 Research questions answered.

6.4.1 Research sub-question 2.

What are teachers' perspectives in relation to their involvement in the original action research-based professional learning?

Teachers recalled their professional learning as a positive experience. Teachers' insights into their personal learning journeys provided the basis for understanding how teachers made meaning of their world through their changed meaning schemes and perspectives. Teachers had clear recollections of how their involvement in action research had influenced their changing values and beliefs and their overall feelings were of being changed as teacher practitioners and as individuals. Teachers recounted feeling challenged through the critical reflection on their practice, feeling encouraged by their research and affirmed to make changes in their professional practice. Teachers believed that their team support was important and that it was a major influence for their changed perspectives brought about through the sharing of ideas. They considered the critical reflection, shared dialogue, personal reflection and collaboration to be the facilitating elements for their changed perspectives and believed that these elements led to their transformative learning. Teachers attributed their transformative learning to their involvement in the action research-based professional learning, and their insights highlighted some conditions that teachers believed were critical to their changed values and beliefs.

6.4.2 Research sub-question 3.

What evidence in relation to affect can be gathered from teachers' reflections on their experience and their perspectives of their transformative learning?

The evidence in relation to affect for understanding teachers' experience of their learning and teachers' conceptual understanding of their transformative learning was teachers' words recorded in the audio files of the interviews, the transcripts of interviews and teachers' written open responses to some questions in the survey. These evidence sets recorded how teachers communicated their experience and conceptual understandings. There was evidence of emotion throughout teachers' accounts of their experience, their reflections and their perspectives of their transformative learning. Teachers' feelings of being appreciated,

encouraged, affirmed, enabled, committed, justified and not scared were shared in their affective descriptions of their professional learning experience.

6.4.3 Research sub-question 4.

Why do some teachers revise their perspective and others don't?

For the one teacher out of eight interviewed for whom transformative learning did not occur, there was evidence of change occurring in her meaning schemes (Mezirow, 1991a) through her survey and interview responses. Her meaning perspectives (Mezirow, 1991a) however did not seem to have changed. Changing meaning perspectives present opportunities for perspective transformation and suggest transformative learning is possible. During her interview, her responses about her professional learning experience were solidly focused on her everyday interpretation of her work with her reflection consistently at the practice level of her work as a teacher. Other teachers who revised their perspectives, went beyond learning about their practice to personalise their learning through critical reflection. In this way some teachers moved their search for meaning from being about knowledge; their meaning scheme, to being about self; their meaning perspective. The teachers who experienced a perspective transformation and ultimately experienced transformative learning may have had dispositions towards, or perhaps innate abilities, to be critical thinkers and aware of their sense of self in relation to their practice. However, teachers were not directly asked about their personality traits in this study. It could be that teachers' ability to reflect at the level of 'self' is akin to the 'empathy' factor that Taylor and Cranton (2013) allude to in transformative learning.

6.4.4 Research sub-question 5.

Does action research have the potential to lead to transformative learning for teachers, and if so, how?

According to the evidence collected from 14 teachers, action research led to transformative learning for seven of them. Teachers described their participation in action research as leading change in their values, beliefs, attitude, motivation or expectations by presenting opportunities for critical reflection, shared dialogue, personal reflection and collaboration. Teachers recounted how action research provided the opportunity for them to gather evidence to understand more about their practice. Teachers recalled the professional learning as an opportunity for their sustained research activity on a topic of interest connected with their practice and that the opportunity to work collaboratively provided a rich environment for the sharing of ideas. For some teachers the research provided a spark to reinvigorate the intellectual side of their work and this was supported by the evidence of several teachers who continued after their professional learning to engage in further academic

studies involving research. Teachers generally recounted the opportunity to participate through action research for their professional learning as enabling for them to focus on problem solving to improve their practice with research-based solutions. Research activities were described by teachers as important and highly valued and teachers believed the overall trigger for their transformative learning was their engagement in action research.

Action research has the potential to lead to transformative learning as it did for seven teachers in my study. Transformative learning outcomes for some teachers were due to a unique combination of processes and circumstances created for the teachers' professional learning involving them in action research projects. The teachers who experienced a transformative learning outcome showed some propensity towards being critically aware of their own meaning perspectives and were reflective on their own beliefs, and their perspective transformation as a consequence of their professional learning.

6.4.5 Research sub-question 6.

Do teachers experience transformative learning from their involvement in action research?

The detailed evidence collected from teachers' survey responses and captured in transcripts from interviews confirms transformative learning occurred for a small group of teachers in connection with their involvement in action research. However, the extent to which this result could be generalisable in larger groups of teachers is unknown. The full extent of transformative learning outcomes amongst the 181 teachers invited to be part of the research remains unknown due to the small response rate to the survey. This point is explained further in the limitation of the research discussed later in the chapter.

6.4.6 Research sub-question 7.

How do transformative learning experiences unfold for teachers?

Transformative learning unfolds for teachers through the development of a learning process over time that involves the learner in being critically reflective. My view of how transformative learning occurs for teachers is grounded in my interpretation of the theoretical work by Mezirow (1978, 1991a) and the integration of what I know now about teachers' learning journeys through the action research. Transformative learning firstly involves an adult learner in a search for meaning. Teachers who could identify their own meaning perspectives by being critically aware of their own beliefs and meaning schemes could reflect on their beliefs, attitudes, emotion and opinions and those of others in their team to transform their meaning perspectives. Those teachers who articulated their strong sense of self appeared more attuned to examining their epistemological and social assumptions. When elements of a

learning context and learner attributes combine in a learning pathway the potential for transformative learning is created. Through critical understanding, integrated and new perspectives are formed which can be applied in a broader context by a learner. Teachers came to action research with a research problem; their search for meaning. They carried out action research to learn more about their problem and in the process formed, shaped or otherwise identified their meaning perspectives in relation to their topic, their field of practice and themselves as adult learners. The collaborative teamwork, shared dialogue and critical reflection combined with new understandings created the ideal conditions for some teachers to form new and integrated perspectives. Some teachers appeared to be more critically aware of themselves developing through the professional learning and action research process. They applied their new perspectives in their practice and in broader contexts to reach transformative learning outcomes. By identifying their meaning perspectives, transforming their perspective to form critical and integrated understandings, a small group of teachers became critically aware of their own personal transformation and presented their stories of their transformative learning as overall feelings of empowerment. They expressed feeling a sense of appreciation, encouragement, affirmation, commitment or justification. The development of their integrated perspectives through action research was unique in each teacher's case, but each one applied their empowered sense of self in some way. Some went on to be change agents in new professional pathways in their schools or adopted ways of being in the broader context of their lives, including several of the teachers who chose to undertake further and advanced education which they said was a direct consequence of their experience in the action research.

6.4.7 Research sub-question 8 and 9.

What do teachers who describe changes in perspective across time, see as their transformation and, in what ways can action research transform teachers' sense of self?

Teachers see their transformation as a more developed, greater or clearer sense of self through their professional learning and this is exhibited in feelings of empowerment from having a revised or refined critical understanding of their beliefs, feelings and assumptions.

Teachers' interviews needed interpretation to understand what transformation meant for teachers. Broadly, teachers saw their transformation as their empowered sense of self. In all the interviews with teachers who experienced transformative learning, teachers described their learning journey and how it made them feel. Only one teacher described her professional learning explicitly as transformational. The same teacher referred to her transformative learning as spiritually significant in some way which she did not elaborate. The interviews were synthesised to find the meaning of transformation for teachers and what

they saw as their transformation. Transformation for the teachers involved them in complex and uniquely personal learning journeys and their action research experience was explained as the trigger. Teachers reflected on their transformative learning revealing their growing sense of self both professionally and/or personally over time. There were four common elements to teachers' transformation synthesised from the analysis and coding of their interviews. Teachers saw their transformation as the sum of their awareness of beliefs, appraisal of assumptions in connection with those beliefs, assessment through critical reflection, the integration of, or the reaching of new perspectives and an application of their new 'self' in a broader professional or personal context in their lives.

6.4.8 Research sub-question 10.

How might transformative learning be fostered to promote future professional learning for teachers?

My findings revealed that team-based, action research over an extended period fostered transformative learning for some teachers. Transformative learning could be fostered in future professional learning for teachers by providing extended time for teachers to carry out research in collaborative teams where shared dialogue and critical reflection on professional practice is encouraged and supported. These were the elements frequently described by teachers as important to their transformative learning outcomes.

6.4.9 Central research question

What are teachers' conceptual understandings and affect concerning any transformative learning following a team-based learning experience?

Teachers' conceptual understandings of their transformative learning were expressed as a sense of empowerment and of having changed perspectives that they attributed to their critical reflection, shared dialogue, personal reflection and collaboration in action research. Teachers communicated their transformative learning in terms of their different feelings, some describing a sense of fear changing to joy. Teachers described feeling challenged through the critical reflection on their practice, feeling encouraged through their research and affirmed to make changes in their professional practice and lives. Teachers' affective responses were also communicated through feelings of being appreciated, encouraged, affirmed, enabled, committed, justified and not scared. From teachers' awareness of their changed sense of self, I have interpreted their conceptual understanding of their transformative learning to be the sum effect of their awareness of their beliefs, their appraisal of their assumptions in connection with those beliefs through assessment by critical reflection,

the reaching of new perspectives culminating in an application of their new 'self' in a broader professional or personal context of their lives.

6.5 The passage of transformation

The key findings of this research can be compared with the original framework by Mezirow (1978) and that of King (2002). Five transformation stages, referred to here as the Passage of Transformation for Teachers, capture the change in teachers' conceptual understandings and affect concerning their spontaneous transformative learning.

1. Awareness of a challenging problem through critical reflection

2. Shared dialogue, collaboration and personal reflection

3. Planning and implanting a course of action (by applying action research cycles)

4. Feelings of empowerment from taking action to resolve the problem and feeling affirmed with changed perspectives

5. Awareness of changed sense of self; being appreciated, enabled, committed, justified and without fear

The Passage of Transformation for Teachers (Stages 1-5) reflects the findings (1-7) in this research. See Table 6.1 for a comparison to other theoretical viewpoints.

Table 6.1

The Key Findings Compared to the Original Framework (Mezirow, 1978) and Journey of Transformation (King, 2002)

<table>
<tr><th>Perspective Transformation Stages - Mezirow (1978)</th><th>The Journey of Transformation - King (2002)</th><th>The Passage of Transformation for Teachers</th><th>Relationship of the stages, journey and passage to the findings (1-7) of this research</th></tr>
<tr><td>1. A disorientating dilemma</td><td rowspan="2">Fear and Uncertainty</td><td rowspan="2">1. Awareness of a challenging problem through critical reflection</td><td rowspan="5">4. Transformative learning unfolds in unique ways for teachers</td></tr>
<tr><td>2. Self-examination</td></tr>
<tr><td>3. A critical assessment of epistemic, socio-cultural or psychic assumptions</td><td rowspan="3">Testing and Exploring</td><td rowspan="2">2. Shared dialogue, collaboration and personal reflection</td></tr>
<tr><td>4. Recognition that one's discontent and the process of transformation are shared</td></tr>
<tr><td>5. Exploration of options for relationships new roles and actions</td></tr>
<tr><td>6. Planning a course of action</td><td rowspan="4">Affirming and Connecting</td><td rowspan="2">3. Planning and implementing a course of action (by applying action research cycles)</td></tr>
<tr><td>7. Acquisition of knowledge and skills for implementing one's plans</td><td>3 & 5. Teachers attributed their professional growth to action research and action research led to transformative learning for some teachers</td></tr>
<tr><td>8. Provisional trying of new roles</td><td>4. Feelings of empowerment from taking action to resolve the problem. Affirmed with changed perspectives</td><td>2. Teachers made affective associations through a range of emotions related to their transformative learning outcomes</td></tr>
<tr><td>9. Building of competence and self-confidence in new roles and relationships</td><td>5. Awareness of changed sense of self; being appreciated, enabled, committed, justified and without fear</td><td>1 & 6. Teachers conceptualized their transformative learning as perspectives of changed sense of self connected to their action research</td></tr>
</table>

10. Reintegration of new perspective into one's life	**New Perspectives**	**Spontaneous Transformative Learning**	7. Teachers in team-based professional learning experienced spontaneous transformative learning

The principles of Mezirow's transformative learning theory (1978), the key ideas in King's stages in the transformation journey (2002) and the passage of transformation for teachers are similar in the initial period of 'challenge' for adult learners; a disorientating dilemma (Mezirow, 1978) expressed with fear and uncertainty (King, 2002). The Passage of Transformation for Teachers is similar to the Journey of Transformation (King, 2002) in the Testing and Exploring stage referred to by King although the critical reflection by the teachers who were studied in this research was an earlier feature in teachers' professional learning using action research. Similar to Testing and Exploring (King, 2002), teachers shared dialogue, collaboration and personal reflection to formulate their action plans to guide their action research cycles. Stage 4 in the Passage of Transformation for Teachers aligns with, but exceeded beyond, Mezirow's (1978) Stage 8: Provisional trying of new roles. For teachers in my research study, teachers' feelings of empowerment from taking action in their professional learning transferred into their experience in their professional roles. Their changed perspectives and changed sense of self, from their action research activity in their professional learning, was the driver for teachers taking on new roles. Stage 5 in the Passage of Transformation for Teachers: awareness of changed sense of self, being appreciated, enabled, committed, justified and without fear, is similar to Mezirow's (1978) Stage 9. That is: Building of competence and self-confidence in new roles and relationships. The Passage of Transformation for Teachers elaborates in three stages the Affirming and Connecting stage described by King (2002). Teachers described having a changed sense of self in professional and personal ways that they carried through to their practice in subsequent new roles that were life changing for some teachers. The overall passage for teachers was similar to the stages described by Mezirow (1978) as teachers acquired new knowledge from their action research and were empowered with feelings associated with their growing competence and self-confidence. Their awareness of their changed sense of self and belief in their transformation were the drivers behind them considering new professional roles that for some teachers gave rise to life-changing professional opportunities. The sum effect, interpreted through teachers' conceptual awareness and belief in their passage to reach a changed sense of self, through their professional learning, was their spontaneous transformative learning.

6.6 Limitations of the research.

The limitations of the research are acknowledged as they present opportunities for further study.

6.6.1 Methodological weaknesses.

6.6.1.1 Robustness of the survey tool.

The research design was qualitative involving use of The Learning Activities Survey (LAS), (King, 1997) in adapted form. The LAS is recognised as a popular survey, used many times by King, and she has invited others to share her survey. King claims her survey has validity and reliability however, Taylor, Cranton and Associates (2012) suggest the survey lacks construct validity and question if inferences from the survey can be theorized as psychological constructs in the Transformative Learning Theory. Its robustness as a data gathering and analysis approach for adult learning situations has been established from over 10 years of application in numerous studies where the procedural instructions and technical information for administration and scoring associated with the survey have been maintained (King, 2009). The LAS is considered a practical tool to identify perspective transformation and gather information about what encourages perspective transformation. In my research, the LAS was used to gather teachers' open responses and their demographic information. The scoring of the LAS was maintained according to the technical information provided by King and responses to the LAS were used to identify teachers for follow-up interviews. Responses to the survey were not directly theorised into psychological constructs, but inferences were made from the responses. Since the research involved a further two phases to understand teachers' perspective changes to inform the overall research findings, the decision to use the LAS is considered sound with no perceived risk to the outcome of the research.

6.6.1.2 Low response rate to the survey.

My research involved a small number of teachers and this may appear to be a limitation of my study. The teachers were volunteers in the research from a much larger group who were invited to participate. The findings from the small group cannot be considered as representative of the whole group of teachers who participated in the action research. The response rate to the survey cast a dark cloud over the viability of the research because the response rate to the survey was substantially less than the number of teachers who engaged in the professional learning. Initially, the low response rate seemed to be a problem however the small numbers allowed for in-depth study of teachers' experiences. Both large and small-scale research projects are possible to study transformative learning and King (2009) has applied both strategies and returned her preference to research involving up to 12 participants. The

findings presented are unique and in-depth for a small group of teachers. The limitation posed by the small number of teachers in the research is minimal as small-scale research has advantages to understand teachers' experiences in greater detail. The decision to study transformative learning through a small or large-scale research study is a decision for future researchers to consider as both may have unique implications for the depth and nature of understanding to be reached.

6.6.1.3 Interpretive research design.

The interpretive design is the most common method for studying transformative learning and some believe it is 'over relied upon' (Taylor & Cranton, 2013, p. 35). It has been suggested advances could be made in understanding transformative learning through research framed by a positivist or critical research paradigm. My interpretive research design allowed me the facility to explore the human experience of teachers in connection with their professional learning. The interpretive research design allowed me to gather detailed insights into the complexity of their learning experience, to appreciate the differences in adult learners and the flexibility to integrate their complex explanations of their conceptual understandings concerning their transformative learning.

6.6.2 Complex and abundant theories.

There is unfolding complexity in transformative learning to be understood. The complexity is reflected in the abundant literature on the topic and the depth of knowledge and opinion that has continued to develop since 1978, when Mezirow first presented his theory of adult learning and interpretation of transformative learning.

6.6.3 The mechanisms of transformative learning.

My finding that action research activities contribute to transformative learning needs a word of caution. Teachers reported many aspects of their action research activities as influential on their values and beliefs. They placed emphasis on some activities which may have been a fragment of their memory or their overall recall of their experience may have emphasised the part played by some activities at the expense of others. My overall appraisal of teachers' accounts is they were rich and detailed, so their memory was never considered to be lacking and their recall of their own growth as teachers was honest and truly believed by them. However, the task for teachers of articulating their perspectives was sometimes difficult and interviews were kept as informal and relaxed as possible to aid teachers' recall of their activities and their changing perspectives. It is accepted that other studies in unique and social contexts may identify transformative learning outcomes from action research differently. More research will be necessary to explore the complexities of transformative

learning in professional learning contexts involving action research. The complexity of the topic is not a limitation, but rather the exponential growth of research studies over the past 40 years is interpreted as a complexity that provides the interest and the conditions for further research to understand the phenomenon.

6.6.4 Knowledge boundaries

6.6.4.1 Research questions.

All research questions have been addressed by the research study. The answers are limited to the boundaries of my knowledge at this time and the scope of this research study.

6.6.4.2 Quest for knowledge.

The exploration of the research context and the answers to the research questions are possible avenues to rejuvenate the field of transformative learning and find new ways and new directions to lead and foster transformative learning. The mechanisms described by teachers from their action research present ways to encourage, lead and foster transformative learning. The scope of this study did not eventually allow for exploration of ways to lead and foster transformative learning with any certainty. However, the unique research context and findings suggest how this could occur. The findings have an impact for the education community, but the wider circle of influence is for the broader research community to determine. The research has answered the research questions. The influence on the field is acknowledged as limited but I know that a small group of teachers came away from their professional learning deeply changed. In reflection on the findings, the topics of leading and fostering transformative research present opportunities for further research.

6.6.5 Theoretical tension.

Theory development is essential to expand the field.

This research has explored a context for teachers and their professional learning in relation to the Theory of Transformative Learning. It has been acknowledged that critiques of this theory exist and there are many other views of transformative learning aside from Mezirow's albeit that Mezirow's is the dominant theoretical perspective. Nonetheless, according to Taylor, Cranton and Associates (2012) affective learning, spirituality or power are considered the new frontiers for theory development for transformative learning. My study did not set out with theory development as its focus however it has provided insights into a context for affective learning for teachers and the context was briefly described by one teacher for its spiritual influence. A new theory did not emerge from my research so that could be a limitation of my study as could the reliance on the theory by Mezirow as the

foundational understanding for this study despite my awareness of the existing critical critiques of his theory.

6.6.6 Different realities.

My philosophical orientation for my research is constructivist. Transformative learning involving reflection, relationships and perspectives is a complex field to interpret and the realities of the teachers have been deduced through the teachers' interpretations and memories of events associated with their professional learning. The meanings they attributed to their professional learning have been recorded in teachers' exact words wherever possible and I have interpreted their understandings to construct a view of the overall reality for the teachers which when described does not align in entirety to any one of those who contributed. Rather, it is the sum of the complex parts.

6.6.7 Role of empathy.

Empathy is a necessary component for fostering transformative learning (Taylor & Cranton, 2013). Teachers' individual personalities or qualities were not considered in my study. Teachers contributed to the study through voluntary participation and were interviewed to understand their beliefs about their perspective changes. An assessment of teachers' empathy was not a focus in my study. Understanding transformative learning through the lens of the personal qualities of the teachers involved rather than through their involvement in a specific context is another research approach. It is possible teachers were predisposed by some empathic qualities to share their reflections and their intrinsic feelings about their learning experience, however the personal qualities of the teachers were not evaluated in any way. No assessment of teachers' empathy, or for them having or not having empathy may be a limitation of the research.

6.6.8 Adult learner profiles.

The psychological type or personality profiles of the teachers in this study was not considered. Some adult learners may have some propensity towards being more introverted or extroverted with respect to their expression of their feelings. Some may be more, or less critically aware of their own learning and perspective transformation which may make them more, or less susceptible to transformative learning. Adult learners' profiles were not considered for this study but works on psychological type theory may be a source of information in future studies of transformative learning.

6.7 Conclusion

6.7.1 Revisiting the context and literature.

I have been drawn to transformative learning theory to understand, describe and interpret the phenomenon at the core of my research. The theorisation by Mezirow (1991a) in *Transformative Dimensions of Adult Learning*, provided my foundational insight into the changes in teachers' perspectives I encountered through my professional work with teachers in their professional learning. I have grappled with different views of transformative learning, burgeoning theory developed on the topic and emerging information related to it in the literature to understand the phenomenon. The new and emerging work has included theoretical development in affective learning, spirituality and power and the literature on transformative learning in many and varied contexts continues to grow. Critiques of the seminal work by Mezirow (1978, 1991a) have been encountered many times. The overall construct of transformative learning, despite all the variations described in its complexities, explains the life-changing outcomes the teachers, after engaging in action research for their professional learning, described.

I have found my research context aligns in many ways with other research on the topic of transformative learning. There was a common theme present in teachers' stories about their professional learning experience that suggested a personally transformative change in their perspective had occurred. Initially, teachers were learning to be action researchers and becoming skilled in applying action research processes. Through their action research projects they built on their existing professional knowledge to change and improve their professional practice and their student learning outcomes. But the outcome for some teachers was more than that. It was unclear to me what was going on for teachers and I was driven to problematise it.

Data from my study revealed that some teachers' perspectives had changed profoundly and unexpectedly. My interpretation and description of findings from their accounts of their professional learning experiences includes the roles of affect and relationships for these teachers. Merriam, Caffarella and Baumgartner (2007) outlined unresolved areas in the development of theory of transformative learning. Areas they pinpointed were the roles that context, affect, and relationships played in transformative learning and the educator's part in fostering transformative learning. Mezirow acknowledged the importance of the affective, emotional and social context aspects of transformative learning in 2000 (Cranton, 2016). There are tensions in the theoretical space and the literature on the topic of transformative learning is prolific. The phenomenon that teachers in my study mentioned needed to be

explored to understand teachers' conceptual understandings of their learning. The emotive stories they shared about their professional growth as educators inspired me to understand and share teachers' conceptual understandings and affect concerning transformative learning.

As one of the facilitators of the teachers' professional learning, I did not have explicit intentions to foster transformative learning. It is possible that the facilitation of the professional learning and the mentoring of teachers by the facilitators contributed to the social context of the adult learning. The focus of my research however was not on the facilitators, but on the teachers, who shared their changed perspectives from their professional learning and their growth as educators. Teachers attributed their changed perspectives to their involvement in professional learning including action research and my qualitative study has investigated what was fundamental to some teachers' perspective change arising from their experience.

Transformative learning was the phenomenon described by teachers and interpreted in this research study. For some teachers, personal transformation was primed by a combination of the learning context and experience and the new and critical understandings they developed. With their sense of empowerment, some teachers integrated new perspectives in the broader context of their lives. No theoretical or practical process for transformative learning was imposed upon the teachers during their professional development experience. Rather, elements present in the professional learning context and in the action research process; specifically, problem-based learning, critical reflection, shared dialogue, and team collaboration created conditions for some teachers to change their perspectives as teacher professionals and as adult learners.

6.7.2 Achieving the research aims.

I aimed to explore the attitudes, values and beliefs and motivations of a group of teachers who completed action research for their professional learning to understand the perspectives of teachers in connection with their professional learning and what any change in perspective means for teachers in their professional practice. I also aimed to understand if any relations exist between teachers' professional learning, action research being undertaken, teachers' affective dispositions and transformative learning.

The research explored teachers' personal change from their viewpoint to build understanding around the attitudes, values and beliefs and motivations of teachers. Throughout my research, I explored the individual stories of teachers' professional learning experiences to weave my understanding of the phenomenon occurring for some teachers.

I came to understand teachers' perspectives changes in connection with their professional learning experience. I understand a theoretical space exists which can explain the phenomenon, that I was unfamiliar with before commencing my research. I have revealed some of the mechanisms behind teachers' changed perspectives and their transformative learning outcomes. Through teachers' accounts, I understand the mechanisms for transformative learning were available in the context created for teacher professional learning including team-based action research that unexpectedly created the ideal conditions for transformative learning to occur for some teachers.

I came to understand what transformative change means for teachers. Through the stories shared by teachers, I know transformative learning was the personal and profound outcome for them. I understand from teachers that reaching a changed sense of self with deeply embedded values and beliefs, is an individual learning journey.

I came to understand the relationships for teachers between their action research, affective disposition and transformative learning. I know the theoretical term for the profound result for some teachers is transformative learning. Teachers described the transformative nature of the professional learning experience in relation to their feelings and expressed emotive accounts of their fears and joy. My research has shown there is a positive connection between action research, teachers' affect and transformative learning, but the outcomes are unique for individual teachers.

I came to understand the deeply embedded personal change from the teachers' viewpoints. The teachers who participated in the research shared their knowledge of their changed values and beliefs and they openly communicated this in affective ways recalling their fears, emotional tension and joy gained from their learning to convey their deeply embedded personal change.

I came to understand teachers' affect in the transformative learning process. Teachers came voluntarily to engage in professional learning, and they were unique and had individual responses to the professional learning experience, which they expressed through a range of emotions and feelings. Their transformative learning outcome was the result of combined processes and conditions in the professional learning and action research that inadvertently created the ideal learning conditions for some teachers' transformative learning.

Lastly, I came to understand the complexities surrounding the transformative learning occurring for teachers. For individual adult learners, something simple like returning to study after a prolonged absence can lead people to see their values and beliefs differently. In the original work by Mezirow (1978), the experience of his wife returning to college after many

years away from formal education and the stories and issues his wife encountered which he explored through research later became the foundation knowledge for his Theory of Transformative Learning. The teachers in my research identified the action research process as an influence on their changing values and beliefs. Cranton (2016) discussed technical knowledge and communicative knowledge and different learning environments which are typically associated. Technical knowledge is demonstrated in an applied way whereas communicative knowledge is more interactive, and co-constructed and the teacher is more like a mentor, than an instructor with a set learning sequence.

The professional learning for teachers involved them in action research and included minimal technical instruction and instead was heavy in opportunities for transfer of communicative knowledge. The professional learning facilitators were co-constructors, mentors and models experienced in action research. As such, experienced facilitators were vital to encouraging teachers' success in their action research, but the research and theory suggest the perfect conditions for transformative learning to occur are complex environments including critical discourse, and critical reflection, and the taking of action. Ultimately, transformative learning rests with the individual adult learner and their openness to alternative perspectives and the possibility of transforming their values, beliefs, and opinions.

Action research was the vehicle for teachers' professional learning and their research inquiries were anticipated to inform practice and ultimately improve their students' learning outcomes. Transformative learning for the teachers involved was not envisioned as a possible outcome. The combination for teachers in establishing and building professional relationships, sharing critical discourse, and building trust in a professional community was important to the teachers' professional learning and growth. The authentic nature of the professional learning context for teachers that focused their activities and thinking on their real school-based issues and practice interests, and encouraged their professional interactions and ongoing critical reflection, all contributed to create the ideal conditions for transformative learning to occur for some teachers.

According to Cranton (2016), a facilitator of communicative knowledge needs to be conscious of the transformative possibilities, even emancipatory potential. In the professional learning context, the facilitators of the action research challenged teachers to reflect critically, to co-construct knowledge with other teachers, and encouraged teachers to believe that their action research was not only possible but that the outcomes would be highly valued by their colleagues, and schools. In some instances, teachers were encouraged to see the value of their research to the wider education and professional communities beyond their school.

Mezirow (1991a) wrote that perspectives are transformed by adult learning and not by society. Cranton (2016) stresses that transformative learning should be seen in a more holistic light, and that it is both personal and social transformation that can occur through transformative learning. In hindsight, the opportunity for teachers to engage in action research was reformist in a time when there was a heavy emphasis on workshops for teachers and a top-down approach to the sharing of knowledge from so-called experts. The action research professional learning context was offered to teachers and an environment was created to support teachers to undertake their own investigations. The professional learning was anticipated to have benefits for teachers from their discovery of their own research-based solutions to suit their unique practice contexts and student cohorts.

Individual teachers in the professional learning environment could exercise their own power, change the direction of their professional practice and in some cases make change happen at their school level. They were involved with repeated cycles of inquiry and action to build knowledge and find solutions to their research problem in their collaborative teams. Teachers shared the enthusiasm they felt in their professional learning experience and expressed the value of working collaboratively with the others in their team. At times teachers described they felt challenged by the opinions and sometimes opposing views of their teammates. The facilitators were sometimes provocateurs presenting different viewpoints to the teams. Teachers were guided to reflect deeply on their action research challenges and were stimulated by questions from the facilitators to provoke their critical thinking, team reflection and discourse about their action research. A climate was inadvertently created for their values to be expressed, challenged and changed during their involvement in the action research for their professional learning.

6.7.3 Major findings summary.

1. Teachers' perspectives changed in connection with their professional learning.
2. Affective associations through a full range of emotions, were described by teachers in relation to their transformative learning outcomes.
3. Teachers' action research led to transformative learning for some teachers.
4. Transformative learning unfolds in unique ways for teachers.
5. Teachers attributed their professional growth to their action research.
6. Teachers described a sense of self in their conceptual understandings of their transformative learning.
7. Transformative learning can be spontaneous in team-based, professional learning for teachers.

The major findings show transformative learning was conceptualised by teachers as learning that was related to their involvement in action research for their professional learning. The combination of the support received, the social context of team-based collaborative research and the sharing of dialogue created ideal conditions for teachers' transformative learning. Teachers engaged in critical reflection to forge new and integrated beliefs about their individual sense of self. Teachers communicated this in relation to affect as feelings about their learning journeys to reach transformative learning outcomes.

6.7.4 Significance restated.

1. My research makes a beneficial contribution to extend knowledge by revealing a phenomenon occurring for teachers following their team-based learning experience. It identifies teachers' conceptual understandings and affect concerning their transformative learning with findings consistent with the principles in the philosophy of adult education (Mezirow, 1991a).

2. My research extends knowledge by revealing through teachers' explanations, the perspective change and the transformative learning occurring for some teachers. Teachers described their conceptual understandings of their professional learning with respect to the uniqueness of it and explained their feelings of empowerment that had arisen from the unique learning context. For some teachers, their realisation was that the changes in perspective leading to their transformative learning were because of the professional learning involving action research.

3. My research is impactful and important in the research field because it reveals the intricacies of transformative learning for some teachers and teachers' unique, individual stories importantly extends knowledge that transformative learning is individually different for teachers even though they may experience the same adult learning context with similar learning objectives. Teachers shared that the triggers for their feelings of empowerment had arisen from the unique context of having undertaken team-based action research for their collective professional learning. The research explored collective transformation among adult learners and identified the influencing factors in the process of transformation for the teachers involved that Cranton and Taylor (2012) said needed more research with attention to what was unique in the setting. Their realisations included that their individual perspectives had

changed because of it. What teachers revealed in interviews confirms knowledge in Mezirow's theoretical framework.

4. My research is beneficial and significant as it reveals the mechanisms fostering transformative learning for a group of teachers undertaking action research for their professional learning. This new knowledge through innovative research aligns with the existing knowledge (Mezirow, 1991a), but has implications for teachers' professional learning in the future.

5. The unique case of one teacher extends knowledge through her illustrative example, that is illuminating as the teacher described a spiritual connection to her transformative learning. The teacher was the only interviewee who did not credit the action research process for her transformation. My research extends knowledge that action research may not be an enabling trigger for transformative learning to occur and this may be provocative in the research field. This is based on the illumination provided by the example case who found the conceptual idea of action research for her professional learning to be an influence but not the process of enacting it. This confirms the theoretical view of Mezirow (1991a) that not all learning is transformative.

6. The overall significance in my research is in the new knowledge that the teachers discovered their transformative learning spontaneously. Teachers described the phenomenon of transformative learning occurring for them spontaneously in the socially, supported situation in the unique, professional learning context when the professional learning involving them in action research was not purposefully designed to foster their transformative learning.

7. My research is important as it finds alignment with others in the research field. My research confirms and extends knowledge aligned with the basic tenets in the philosophy of adult education (Mezirow, 1991a) through the finding of teachers' conceptual understandings of their transformative learning in a team-based learning experience Cranton (2016) described meaningful group processes include support and encouragement where learners have a trusting relationship with their facilitator and Six-Means (2009) associated the core elements: critical reflection, dialogue, and authentic relationships with transformative learning outcomes. The combination of the

support received, the social context of team-based collaborative research and the sharing of dialogue created ideal conditions for teachers' transformative learning.

6.7.5 Overall contribution.

I believe I have added to the knowledge of the education and research communities with my research. My research contributes to both fields by revealing the teachers' conceptual understandings and affect concerning their professional learning experience and action research that presented a unique context for the spontaneous, transformative learning for some teachers. My research contributes to advancing understanding of teachers' affect in connection with their unique professional learning context where supportive relationships, reflection and discourse, and suggested spirituality, are related for some teachers in their transformative learning outcomes.

6.7.6 One teacher remembered.

The focus of my research was originally problematised from the account of one teacher who was not included in my research study, but who felt moved to share her reflections with me long before I had any research underway. She attributed her professional growth as a teacher and the success she was enjoying, working as an educator internationally, to her action research experience some time before. While she was not ultimately part of my research, because we had lost contact with each other and my efforts to locate her were unsuccessful, her story and her reflections remain as the stimulus for me to undertake this study.

I have found fascinating similarities with the evolving theories of transformative learning in what teachers have told me whilst sharing their experience of their personal transformation. Teachers' stories of personal change through the action research context for their professional learning brought transformative learning theory alive.

6.8 Future directions.

My interpretation of teachers' conceptual understandings and affect concerning their transformative learning developed throughout my research. Some elements relating to transformative learning were uncovered but remain unanswered by my research.
The following list suggests possible directions for further research, and possible research questions are posed for future researchers to contemplate.

1. What is the influence of a professional learning facilitator on the transformative learning outcomes for teachers?

The influence of having facilitators to support and encourage the teachers' professional learning was not explored however teachers' reflections suggest the facilitators were an influence on teachers' transformative learning outcomes.

2. How can transformative professional learning for teachers be fostered and led?

Many studies identify the existence of a transformative learning phenomenon, but perhaps the future lies in ways to foster transformative learning. A positive relationship exists between action research for teacher professional learning and teachers' transformative learning, suggesting action research is one way to power up teachers' professional learning for transformative effect.

3. What is the emancipatory influence from teachers' transformative learning in social change in their school and their wider professional communities?

My research identified teachers' perspectives changed in connection with their professional learning experience and some teachers gave brief insights into their wider influence on their social or school community contexts since their professional learning. My research focused on change occurring for the individual teachers, but the influence of teachers' transformative learning may be wider.

4. Can teachers build upon and sustain their transformative learning?

The teachers who shared their perspective change and transformative learning appeared to sustain their learning through advancing coursework or work-based achievements. The sustainability of transformative learning was not directly explored although this research showed the transformative effects for teachers are present and relevant over time.

5. Could there be a negative side to transformative learning outcomes?

Transformation is commonly described as inherently positive from both an orientation and an outcome perspective (Taylor & Cranton, 2013). The teachers in this study conveyed both their positive orientation and their positive professional learning outcomes and this study found there were no negative outcomes for the teachers from their professional learning.

6. Are there adult learner traits or psychological types that predispose learners to reach transformative learning outcomes?

Some adult learners may have propensity towards being critically aware of their own learning and perspective transformation which predisposes them to transformative learning. My research did not consider levels of empathy or the psychological profiles of the adult learners in this study.

6.9 Conceptualising my transformative learning.

My research was problem-based. It involved me in countless hours of critical reflection including countless hours of shared dialogue with teachers and my university mentors. My research focus has been on the work I shared with teachers and was grounded in a primary purpose to understand teachers' conceptual understanding and affect in any transformative learning occurring for them in a professional learning project involving action research. There have been critical moments for me in this research, that I reflect on now as my own disorientating dilemmas. I have critically reflected on the purpose of my study and the value a small, in-depth study could have in the vast theoretical space of adult and transformative learning. Since all adults share the capacity for transformative learning, I had a strong belief that an in-depth, qualitative study involving a small number of teachers could contribute new knowledge to the evolving theory of transformative learning.

My research has been a journey to explore the unique, professional learning outcomes for a group of teachers who completed year-long action research projects. My passion for understanding adult learning has continued to grow as teachers have recounted, in a range of emotions, their thoughts, feelings, attitudes, motivations, beliefs, and their professional and personal growth through their accomplishments in action research and beyond. I wanted to believe that the professional learning had empowered teachers to change and improve their practice and I know now that it did. Teachers' affect was apparent in many forms and their emotions were evident along with their feelings of empowerment and efficacy in their recounts of their professional learning experience. I have come to understand the profound outcomes that some teachers experienced have a phrase to describe them. That phrase is transformative learning. I have grappled with understanding different views of transformative learning theory over several years. Who would have guessed action research had all the hallmarks of a transformative learning opportunity for them? Who could have imagined teachers would be so inspired by the supported opportunity to action research to improve their teaching practice, that their perspectives, self-image and professional directions would change because of it? I had not guessed nor imagined it.

My joy was in discovering that teachers' success was expressed through their affect, that they had internalised a sense of their personal and professional growth and success to the

extent of having changed their values and that they were applying what they now valued so highly in ways in practice like a new philosophy of teaching and in broader contexts.

My own transformative learning through this research is profound.

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Appendix A

Influences on Mezirow's Transformative Learning Theory

Table A1

Influences on Mezirow's Transformative Learning Theory

Influence	Transformative learning facet
Kuhn's (1962) Paradigm	Perspective transformation
	Frame of reference
	Meaning perspective
	Habit of mind
Freire's (1970) Conscientisation	Disorientating dilemma
	Critical self-reflection
	Habit of mind
Habermas's (1971) Domains of Learning	Learning processes
	Perspective transformation
	Meaning scheme
	Meaning perspective

(Kitchenham, 2008, p. 106)

Appendix B

The Ten Phases of Perspective Transformation

Table B1

The Ten Phases of Perspective Transformation

Phase	Details of the Phase
1	A disorientating dilemma
2	Self-examination with feelings of guilt or shame
3	A critical assessment of epistemic, sociocultural or psychic assumptions
4	Recognition that one's discontent and the process of transformation are shared and that others have negotiated a similar change
5	Exploration of options for new roles, relationships and actions
6	Planning a course of action
7	Acquisition of knowledge and skills for implementing one's plans
8	Provisional trying of new roles
9	Building of competence and self-confidence in new roles and relationships
10	A reintegration into one's life on the basis of conditions dictated by one's perspective

(Mezirow, 1991a, pp. 168-169)

Appendix C

The Learning Activities Survey

Table C1

The Learning Activities Survey

Parts & Purpose	Survey Item	Structure
1 Identifies stages of perspective transformation	1	Multiple Choice
	2	Yes/No
	3	Open Response (Describe)
2 What promoted PT?	4	Multiple parts with multiple choice
	5	Open Response (Reflection)
	6	Yes/No
3 What were the activities?	7	Multiple Choice
4 Collects characteristics	8-14	Demographic Data Tick Boxes

Adapted from King (2009)

Appendix D

Adapted Survey Questions

Table D1

Adapted Survey Questions

Items on the LAS adapted for this research study	The survey question	The purpose of each survey item
1	Survey Item 1: Thinking about your professional learning involving you in action research between the years 2010 and 2014, check off any statements that might apply.	This item includes all 10 stages for Perspective Transformation (Mezirow, 1978) using carefully paraphrased and tested statements in a question with multiple check boxes for multiple responses. The multiple-choice checklist can reveal how many of the 10 stages of PT (Mezirow, 1997) the teacher identifies with and teachers can select as many from the list that apply to their experience.
2	Survey Item 2: During or since you participated in action research for your professional learning, do you believe you have experienced a time when you realised that your values, beliefs, opinions or expectations have changed? (Adapted fromKing, 2009)	This is a yes/ no question which will ask teachers directly if they have had a change in values, beliefs, opinions or expectations (in other words suggesting a perspective transformation has occurred).

3	Survey Item 3: Briefly describe what happened in connection with your answer to Q2.	This question allows the respondent an opportunity to provide an open response to the question which asks teachers for a basic description of their PT experience (Describe What happened?) Responses to this question will provide a personalised description and details of any PT experience. This response can verify that teachers' PT was related to their professional learning experience.
4	Survey Item 4: Which of the following influenced this change? (check all that apply on a multiple point checklist). (Adapted from King, 2009)	Asks who or what influenced the change. This question directs teachers to consider their individual professional learning and any life changes they may have had. This question provides multiple choices for the respondent to consider adding more detail to their Yes/No response, including options related to the learning and significant life changing events. This question concerns what facilitated their perspective transformation.
5	Survey Item 5: Thinking back when you first realised that your views or perspectives had changed, what did your action research have to do with your experience of change? (Adapted from King, 2009)	What did being in the professional learning project have to do with this change?
6	Survey Item 6: Would you characterise yourself as one who usually thinks back over previous decisions or past	Provides information about the teachers and their reflection habits.

	behaviours? (Adapted from King, 2009)	
7	Which of the following have been part of your experience in the action research in the professional learning program?	Records frequency of specific learning activities and this reveals information about the adult learners regardless of whether they experienced PT or not. This question asks the respondent to check any major life events that occurred around the same time.
8	Questions 8-14 Record demographic information	Identifies gender of respondent (demographic)
9		Identifies marital status (demographic) Likely to be revised to AITSL standards
10		Identifies nationality (demographic)
11		Identifies subject majors (demographic) Likely to be revised to teaching subjects
12		Identifies education status (demographic)
13		Identifies term in professional learning program (demographic)
14		Identifies age range (demographic)

15	Consent to be contacted	If you agree to be contacted for a 30-minute interview to follow-up your responses to the survey, please record your name and contact email address and phone number in the spaces provided below. NAME & CONTACT INFORMATION (email/phone) Thank you for your consent to receiving further contact. None of your personal details will appear in the final reporting for this research. You may be contacted for further information in a later stage of this research study. Your fully completed survey is of importance to the researcher to achieve the research objectives. Thank you for your survey participation

Adapted from King (2009)

TABLE D2

Complete and Adapted Survey

Before beginning the survey, ensure you have read the Participant Information Letter attached to the email containing this survey link. From the information in the letter, you should understand the nature of the research project, who is undertaking the research, the low risks associated with participation, what you will be asked to do, the estimated participation time, the benefits of participating in the research, how you can withdraw from the study, who to contact if you have complaints or concerns and how you can find out the results of the study. If you have read the Participant Information Letter and agree to participate, please continue with the survey.

1. Please provide your name, email address and phone number. The researcher may contact you to understand more about your survey responses. If you prefer to remain anonymous, you can complete the survey without providing your personal information. Your contribution to the survey is valuable. Your responses to the survey will be coded, aggregated and deidentified in the reporting of the research. A small number of participants, who give their consent for further contact, may be contacted in relation to their survey responses. Your contact details are very important to the overall scope of the research study.
Name
Email Address
Phone Number

2. Thinking about your professional learning experience involving you in action research in the Independent Schools Queensland (ISQ) Teachers as Researchers (TAR) Project between the years 2010 and 2014, select all statements from the list below that may apply to you.
a. I had an experience that caused me to question the way I normally acted.
b. Something happened that made me think about or question my ideas about social roles.
c. As I thought about these things, I realized I no longer agreed with my previous beliefs or role expectations.
d. Or instead, as I questioned my ideas, I realized I still agreed with my beliefs or role expectations.
e. I realized that other people also questioned their beliefs.
f. I thought about acting in a different way from my usual beliefs and role(s).
g. I felt uncomfortable with traditional social expectations. (Social expectations may be about professional learning or adult learning)
h. I tried out new roles so that I would become more comfortable or confident in them.
i. I tried to think of a way to adopt the new ways of acting.
j. I gathered the information I needed to adopt the new ways of acting.
k. I began to think about the reactions and feedback from my new behaviour.
l. I took action and adopted the new ways of acting.
m. None of the statements above apply to my experience in action research for my professional learning.

3. During or after your participation in action research for your professional learning in the period 2010-2014, do you believe you experienced a time when you realised that your values, beliefs, attitude, motivation or expectations had changed?
Yes. If 'yes' go to Question 4 and continue the survey
No. If 'no' go to Question 12 and continue the survey

4. Briefly describe what happened.

5. During or after your participation, was it a person who influenced the change in your values, beliefs, attitude, motivation or expectations?
Yes
No

6. If you answered 'YES' to question 5, check all that apply from the list below. Was it.....
another teacher's support
your team's support
your school leader's support
a challenge from your project facilitator
your project facilitator's support
other

7. During or after your participation, was it the action research process that influenced the change in your values, beliefs, attitude, motivation or expectations?
Yes
No

8. If you answered 'YES' to Question 7, what was it about the action research process that influenced the change? Check all that apply from the list below.

the team project
writing about the research problem
keeping a personal journal
the professional learning journey
the team work
the critical reflection
the professional growth
the shared dialogue
reporting on the research
self-evaluation of the professional learning
the action research cycles
the action learning experience
the personal reflection
the assigned readings
other

9. During or after your participation, was it a significant change in your life that influenced the change in your values, beliefs, attitude, motivation or expectations?
Yes
No

10. If you answered 'YES' to Question 9, what was the significant change in your life?
Check all that apply
from the list below.
marriage
birth or adoption of a child or children
moving
divorce or separation
death of a loved one
change in employment
change of employer
other
If the life-changing event was something other, please give more information in the box below.

11. Thinking back to when you first realised that your views or perspectives had changed, what did being in an action research project have to do with the experience of change in your values, beliefs, attitude, motivation or expectations?

12. Would you characterise yourself as one who usually thinks back over previous decisions or past behaviour?
Yes
No

13. Would you say that you frequently reflect upon the meaning of your professional learning for yourself personally?
Yes
No

14. Which of the following were part of your professional learning experience in the action research project? Check all that apply.
another teacher's support
your team's support
your school leader's support
a challenge from the project facilitator
your project facilitator's support
a team project
writing about the research problem
keeping a personal journal
a professional learning journey
teamwork
critical reflection
professional growth
shared dialogue
reporting on the research
self-evaluation of the professional learning
action research cycles
action learning
personal reflection
assigned readings
other

15. Which, if any, of the following occurred while you were involved in the action research project during the period 2010-2014?
Marriage
Birth/adoption of a child
Moving
Divorce/separation
Death of a loved one
Change in employment
Change of employer
Other
None of the above

16. What is your gender?
Male
Female

17. Thinking about the National Professional Standards for Teachers (AITSL), which of the categories below from the Standards best describes your level of professional knowledge, practice and engagement in the period 2010-2014.
Graduate
Proficient
Highly Accomplished
Lead

18. Which title best describes your position as an educator in the period 2010-2014?
Classroom teacher
Subject Specialist teacher
Head of Department

School Leader

19. Has your position in your school changed since 2014?
Yes
No

20. Which of the options below describes your research background when you engaged in action research for your professional learning in the period 2010-2014? You may select more than one option.
No previous research experience
Some action research experience
Tertiary study involving a research component
Research at post-graduate level
Action researcher
Higher degree by research
Other research experience (please specify)

21. Which of the awards below describes your highest qualification in 2010-2014?
Bachelor Degree
Post-graduate Diploma
Master Degree
Doctoral Degree

22. Please identify the year(s) you were involved in action research for your professional learning in the ISQ Teachers as Researchers Project. You may select more than one year from the options below.
2010
2011
2012
2013
2014

23. Please indicate your age group in 2010-2014.
Under 25 years
26-35 years
36-45 years
46-55 years
Over 56 years

24. A small number of survey respondents, who have provided their contact details and who give their consent below, will be invited to participate in a follow-up interview by phone requiring 45 minutes to complete. Please indicate below if you consent to be contacted by the researcher in follow-up to this survey.

I have not provided my name or contact details in order to remain anonymous in this survey. My involvement in this research study
is ended upon submission of my survey responses.
I have provided my name and contact details on the survey and give my consent to receive further contact from the researcher if
the researcher needs to understand more about my survey responses. I will also complete the Consent Form attached to the

introductory email and return it by email to Leigh Witney using the email address indicated on the Consent Form.
I have provided my name, to assist the researcher in collating and analysing the information, however I do not wish to be
contacted by the researcher beyond my contribution to this survey.

Appendix E

Participant Information Letter

RESEARCH PROJECT:
Teachers' Affective Domain and Transformation in Team-based Learning
PRINCIPAL SUPERVISOR: Professor Brendan Bartlett, Chair in Education ACU
STUDENT RESEARCHER: Leigh Witney
DEGREE: ACU Doctor of Education

Dear Participant,
You are invited to participate in the research project described below.

What is the project about?

The research project will explore teachers' reflections in connection with their professional learning in the ISQ Teachers as Researchers Project in part, or all, of the period 2010-2014. The aim of the project is to explore teachers' attitudes, values and beliefs and motivations in connection with their professional learning to understand teacher change.

Your participation is important because teachers are a powerful force in changing educational practice and this research may have implications for teachers' professional learning in the future. The research may have far reaching implications for the theoretical base for adult learning.

Who is undertaking the project?

This project is to be conducted by Leigh Witney and will form the basis for the degree of Doctor of Education under the principal supervision of Professor Brendan Bartlett, Chair Professor in Education, at Australian Catholic University, Brisbane, Queensland. Leigh Witney is undertaking the research project as an individual research student rather than as an employee of Independent Schools Queensland (ISQ).

Are there any risks associated with participating in this project?

The research project is considered to be low risk for the participants.

A foreseeable risk may be some minor inconvenience in time spent providing survey and interview responses. The researcher will mitigate the risk by respecting participants' valuable time, by observing the time frames indicated for survey and interview completion and by following thoughtfully designed survey and structured interview processes.

Another foreseeable risk may be minor participant anxiety associated with describing their values or beliefs. The researcher will mitigate the risk by respecting the rights of the individual

to describe their situation to the extent they are comfortable assured that no value judgement will be included in this research study.

What will I be asked to do?

Participants will be asked to:

- Complete a short online survey, including multiple choice and some short responses. The online survey should require no more than 30 minutes to complete. Participants will have the opportunity to consent to further involvement in the research study at the end of the survey.
- A small number of survey respondents will be invited to participate in a follow-up interview by phone requiring 45 minutes to complete. The interviews will be digitally recorded to facilitate later analysis. Recordings will be destroyed once the interview data has been analysed. All data collected will be de-identified in the research reporting.
- 1-4 participants from the survey and interview will be selected by the researcher for a further follow–up interview to facilitate a case study. This will involve a one-hour face-to-face interview, a review of anecdotal evidence if available and will be digitally recorded to facilitate analysis of the data. The recordings will be destroyed upon completion of data analysis. All data collected will be de-identified in the research reporting.
- An indication of the questions to be asked are:
    - Thinking about your professional learning involving action research between 2010-2014, check off any statement which may apply. (Multiple choices for responses provided)
    - Questions about your opinion or expectations in connection with the professional learning (Yes/No answer required)
    - Briefly describe what happened (a short response answer will be required)
- The study will be mostly conducted remotely through electronic or phone communications. The location of the study for face-to face interviews will be by appointment at a mutually convenient location.

How much time will the project take?

A participant will be required to spend 30 minutes completing an initial online survey. A small number of participants will be required for a further 45 minutes for phone interview. One or more case study participants will be required for a minimum of one additional hour.

What are the benefits of the research project?

There will be no immediate benefits to participants in this research study. However, a general benefit will be the opportunity to engage in reflection, the analysis of which may drive changes to teachers' professional learning in the future.

Can I withdraw from the study?

Participation in this study is completely voluntary. You are not under any obligation to participate.

If you agree to participate, you can withdraw from the study at any time without adverse consequences.

If you choose not to participate, or to withdraw at any time, your non-participation or withdrawal will not affect your ongoing treatment/enrolment/employment etc. with Independent Schools Queensland (ISQ).

Will anyone else know the results of the project?

This study will be used as the basis for a thesis in the ACU Doctor of Education program. The research may be published by a peer-reviewed Education journal. The results of this research study are likely to be shared in education forums with teachers and education professionals. All data will be de-identified and non-identifiable in the reporting of the research. Only aggregated data will be published, and case study details will be de-identified and non-identifiable. Data will be stored by the researcher and the research project supervisors at ACU. All data collected will be destroyed upon completion of the research after any required holding period.

Will I be able to find out the results of the project?

Any participant can request to be notified with the results of the project upon completion of the research. An interest in receiving the results of the project can be logged at the end of the survey. Details of how to access results, or a summary of the results, will be made available upon completion of the research study to the participants who express their interest.

Who do I contact if I have questions about the project?

Any questions about the project can be directed to the researcher:

Leigh Witney at leigh.witney@myacu.edu.au or to the Principal Supervisor, Professor Brendan Bartlett at brendan.bartlett@acu.edu.au

What if I have a complaint or any concerns?

The study has been reviewed by the Human Research Ethics Committee (HREC) at Australian Catholic University (HREC 2016 – 290 E, approval end date 30 June 2019). If you have any complaints or concerns about the conduct of the project, you may write to the Manager of the Human Research Ethics Committee care of the Office of the Deputy Vice Chancellor (Research).

Manager, Ethics
c/o Office of the Deputy Vice Chancellor (Research)
Australian Catholic University North Sydney Campus
PO Box 968. NORTH SYDNEY, NSW 2059
Ph.: 02 9739 2519 Fax: 02 9739 2870 Email: resethics.manager@acu.edu.au

Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

I want to participate! How do I sign up?

Kindly reply to this email from leigh.witney@myacu.edu.au with 'Consent to be contacted for research survey' in the email subject line. Attach a scanned and signed copy of the Consent Form sent to you with this Participant Information Letter and a link to the online survey will be sent to you shortly afterwards.

Thank you for considering this valuable research project and for the contribution you could make to teacher professional learning in the future.

Yours sincerely,

Leigh Witney.
EdD Candidate
Australian Catholic University.

Appendix F

Consent Form

(Instructions to Complete:

Sign, scan and send a copy to the Researcher at leigh.witney@myacu.edu.au

A copy signed by the researcher and the principal supervisor will be returned to the Participant)

TITLE OF RESEARCH PROJECT:

Teachers' Affective Domain and Transformation in Team-based Learning

PRINCIPAL SUPERVISOR:

Professor Brendan Bartlett, ACU Chair of Education

RESEARCH STUDENT: Leigh Witney

I ..... (the undersigned participant) have read (or, where appropriate, have had read to me) and understood the information provided in the Participant Information Letter. Any questions I have asked have been answered to my satisfaction.

I understand my consent to participate in the research study will involve me in:

- completion of an online survey using the link provided
- an interview in response to my survey responses in some cases.
- an extended interview for case study purposes in a very small number of cases

I understand interviews will be digitally recorded

I understand I can withdraw my consent at any time without adverse consequences.

I agree that de-identified research data collected for the study may be published or may be provided to other researchers in a form that does not identify me in any way.

I wish to receive a copy of the report for this research upon completion of the study. □ Yes/□ No.

I wish to receive a summary of the research findings upon completion of the study. □ Yes/□ No.

I agree to participate in this research study of teachers' affective domain and transformation in team-based learning during 2017. □ Yes/□ No.

I agree to be contacted for the purpose of interview if further information is required. □ Yes/□ No.

NAME OF PARTICIPANT……

SIGNATURE OF PARTICIPANT..... DATE .....

SIGNATURE OF PRINCIPAL

SUPERVISOR……..……..DATE……

SIGNATURE OF STUDENT RESEARCHER

Appendix G

ACU Ethics Approval 2016-290E Extension until 30 June 2019

ACU
AUSTRALIAN CATHOLIC UNIVERSITY

Human Research Ethics Committee

PROGRESS / FINAL / EXTENSION REPORT FORM FOR PROJECTS

Within thirty [30] days of receipt of this notice, please email the completed form to Res.Ethics@acu.edu.au or send it to:

VIC, NSW and ACT	QLD
Research Services	Research Services
Australian Catholic University	Australian Catholic University
Melbourne Campus	Brisbane Campus
Locked Bag 4115	PO Box 456
FITZROY VIC 3065	VIRGINIA QLD 4014
Tel: 03 9953 3150	Tel: 07 3623 7429
Fax: 03 9953 3315	Fax: 07 3623 7328

For additional information visit the ACU Research Ethics website or contact the Ethics Officers on Res.Ethics@acu.edu.au or +61(02) 9739 2646.

Answer all questions. If a question does not apply, indicate N/A.
This form is also available from the ACU Ethics web pages.

Section 1

1.1 HREC Register No	2016-290E
1.2 Approval End Date	30 June 2018
1.3 Risk Level	Low Risk
1.4 Name of PI / Supervisor	Professor Brendan Bartlett
1.5 Name of Student Researcher(s)	Leigh Ann Witney
1.6 School	Faculty of Education and Arts
1.7 Project Title	Teachers' Affective Domain and Transformation in Team-based Learning

Section 2 - To be completed by the Principal Investigator or by the Supervisor and Student Researcher.

2.1 Status of Research Protocol

Extension of Ethics Approval

☑ **The protocol is continuing and contact with participants or access to their data or records is still required.**
I request an extension of the Ethics Approval to 30 June 2019
To ensure compliance with the NHMRC and annual progress report requirement, extensions are granted for a maximum of one year to either June or December. Further extensions can be applied for on an annual basis.

Final Report

☐ **Protocol was completed on the** _____ **and this is the final report.**