TEACHER DECISION-MAKING: THE FULCRUM OF A PRODUCTIVE TEACHING AND LEARNING ENVIRONMENT

A Thesis submitted by

Caroline Blackley

MEd (Special Education), MEd (Guidance and Counselling), MEd (Further Education & Training), BEd (Primary), BSc (Psychology)

For the award of

Doctor of Philosophy

2021

ABSTRACT

Decisions apprise actions, and actions create the environments in which teaching occurs. Within the context of classroom decision-making, cognitive load and affect are key elements, influencing the decisions made by teachers that impact the flow of learning and ultimately the classroom environment in which they teach. To create productive teaching and learning environments, teachers require current knowledge and skills through effective professional learning programs in teacher-student interactions that will add to the creation of their desired classroom environment.

Qualitative methods of thematic analysis, from the descriptive data in the forms of interviews and classroom observations, led to patterns then themes that were synthesised into four categories able to reflect the teaching practices that guided teachers in their decision-making. These themes formed the foundation of the practical Four Dimensions framework that was then used to design a new professional learning program.

By way of survey results, the Four Dimensions professional learning program was evidenced to enhance teacher knowledge and skills with increased positive teacher-student interactions, leading to reduced interruptions to the flow of curriculum delivery. The findings of this study provided evidence that teaching practices changed through small shifts in how choices in teacher-student interactions were viewed based on a focus of curriculum over classroom behaviour management. The changes in teachers' decision-making when interacting with students resulted in increased positive teacher affect and productive teaching and learning environments.

Key words: affect, cognitive load, decision-making, flow of learning, teacher-student interactions, professional learning programs

CERTIFICATION OF THESIS

This Thesis is the work of Caroline Blackley except where otherwise acknowledged, with the majority of the authorship of the papers presented as a Thesis by Publication undertaken by the student. The work is original and has not previously been submitted for any other award, except where acknowledged.

Principal Supervisor: Professor Petrea Redmond

Associate Supervisor: Dr Karen Peel

Student and supervisors' signatures of endorsement are held at the University.

STATEMENTS OF CONTRIBUTIONS

Below are the peer reviewed journal articles that have been submitted or published. The corresponding study and chapter include an exact or similar copy of the submission. The details of the scientific contribution of each researcher are provided.

- **Study 1 (Chapter 5): Teacher decision-making in the classroom: The influence of cognitive load and teacher affect**

  Blackley, C., Redmond P., & Peel, K. (2021). The influence of cognitive load and affect on teacher decision-making in classroom practices. *Journal of Education and Teaching, September,2021*. doi:10.1080/02607476.2021.1902748

The overall contribution of ***Caroline Blackley*** was 75% of the concept development, data extraction, analysis, interpretation, drafting and revising the final submission; ***Petrea Redmond*** and ***Karen Peel*** contributed 25% to editing, and important technical inputs.

- **Study 2 (Chapter 5): Classroom Profile Training: Teacher decision-making based on knowledge, skills, and transference to teaching practice**

  Blackley, C., Peel, K., & Redmond, P. (under peer review 2021). The design and development of professional learning programs on teacher knowledge and skill transference to teaching practices. *Educational Studies*.

The overall contribution of ***Caroline Blackley*** was 70% of the concept development, data extraction, analysis, interpretation, drafting and revising the final submission; ***Petrea Redmond*** and ***Karen Peel*** contributed 30% to editing and important technical inputs.

- **Study 3 (Chapter 8): The influence of a professional learning program: Changing classroom management practices**

  Blackley, C. (under peer review 2021). The influence of a professional learning program: Changing classroom management practices. *Australian Journal of Teacher Education*.

The overall contribution of ***Caroline Blackley*** was 90% of the concept development, data extraction, analysis, interpretation, drafting and revising the final submission; Petrea Redmond and Karen Peel contributed 10% to structuring and editing, with technical support from Geoff Partridge and Taryn Axelson contributed to the survey construction and statistical analysis.

ACKNOWLEDGMENTS

The person who has influenced my professional journey, is both my colleague and my baby sister. I feel gratitude for the open door you provided me into your classroom as I tested and trialled my crazy ideas, and your continued loyalty to both me and the process. We were raised, to confront, not conform, to challenge, not accept, and you have shaped my thinking and informed my approach to teaching. Thank you, Ainsley McERvale, you are the teacher that every child deserves.

The path to a PhD is nothing short of chaotic. I acknowledge the unbelievable level of patience shown by my family, my husband, and my supervisors, with their high expectations and persistent support in the development of my skills as a PhD student over the course of this study, Associate Professor Petrea Redmond and Dr. Karen Peel. I can never express the gratitude I have for the dedication and the commitment you both have to education and to those you guide in the pursuit of developing better educators. Thank you for walking this path with me and providing the impetus to dig deep in the year that brought us COVID and so many other challenges alongside it.

Recognition of the late Professor Gerry Tehan, who was the first to believe in a very lost 19-year-old and supported my unconventional path to success in my early tertiary studies. To Dr Stephen Keast, Associate Professor Gillian Kidman and Dr Jennifer Mansfield, who helped shape and mould my knowledge and skills on this PhD journey in its early stages. Your questions and discourse provided the guidance I needed and was seminal in the early interpretation and analysis of findings that informed the direction of this study. I am grateful to each of you for your contributions.

To my three children, Jacob, Melisha, and Savannah - you are my every reason for living life with integrity and direction. You are my purpose. Thank you for being beside me every step of the way. To my parents, George, and Helen, who provided me with empathy and a backbone through the way they lived their lives with their Grit and their Grace. I learnt early how to live a large life, to challenge the status quo and to believe in the path I chose in life with no half-arsed attitude. To my husband, Stephan Blackley, thank you, my complex country man, for keeping me grounded, for your patience, tolerance, and continued commitment to this process and to me, it would not have been achieved without you. This is it, the promise, I have finished!

This research has been supported by an Australian Government Research Training Program Scholarship.

KEYNOTE SPEECHES AND PRESENTATIONS RELATED TO THIS STUDY

1. McCarty, C. (2020, July 8). Paper accepted to be presented at the Teacher Education Forum of Aotearoa New Zealand, and Australian Teacher Education Association combined conference, Auckland, New Zealand. (COVID caused cancellation).

2. McCarty, C. (2019, June 25). *Building teacher capacity: Classroom decision impact teacher-student interactions.* Workshop presented at the Queensland, Education Leadership Institute Educators' Conference, Learning Well: Being Well, Emerald, Qld, Australia.

3. McCarty, C. (2019, September 7). *Four Dimensions: Teacher decision-making for Positive Classrooms.* Keynote speaker at the Beginning and Establishing Teachers Association, Rejuvenate, Refresh and Reset Conference for Beginning teachers. Gold Coast, Qld, Australia.

4. McCarty, C. (2019, August 17). *Four Dimensions: Classroom Practices for success.* Keynote speaker at the Beginning and Establishing Teachers Association, Rejuvenate, Refresh and Reset Conference for Beginning teachers. Rockhampton, Qld, Australia.

5. McCarty, C. (2020, July 8) *Influencing teacher decision-making to reduce emotional exhaustion in the classroom*. Paper presented at Australian Teacher Education Association Conference, Sunshine Coast, Qld, Australia.

6. McCarty, C. (2018, July 17). *Building student learning through increased teacher self-efficacy in classroom management practices.* Paper presented at the World Congress on Education, Dublin, Ireland.

7. McCarty, C. (2018, April 8). *Impact of teacher decisions on classroom interactions: How students pay the price.* Paper presented at the No More Harm Conference, Melbourne, Vic, Australia.

8. McCarty, C. (2017, 29th June) *What Influence do Science Teachers have in Creating Positive Learning Experiences for Learners of Science?* Paper presented at the Australasian Science Education Research Association Conference, University of Technology, Sydney, Australia.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

THE GLOSSARY OF TERMS

Affect: A sense of feeling, ranging from unpleasant to pleasant (valence), and from agitated to calm (arousal).

Amber zone: The teaching actions used to manage unproductive student behaviours using Redirection and Follow Through.

Australian Professional Standards for Teachers (APST): A set of professional requirements that outline what teachers should know and do, as determined by the Australian Institute for Teaching and School Leadership.

Behaviour: Any act, conduct or deportment, in reference to one's actions before or toward others that is measured by commonly accepted standards.

Behaviour Management: Ways used by teachers in disciplining students so that they were more likely to conform to the standards expected of them.

Belonging: A term used by Abraham Maslow to identify a students' sense of being included or as a part of the whole.

Classroom behaviour management: Changing student behaviours to create productive learning environments, with the aim to minimise time spent in managing unproductive conversations.

Classroom environment: The physical environment in which teaching, and learning takes place for the delivery of curriculum within a school or educational context.

Classroom Profiling: An observation tool based on the Essential Skills of Classroom Management.

Consequences: The result, or a particular action, or situation, with unpleasant or inconvenient connotations.

Cognitive load: The amount of information that working memory can hold at one time, or the used amount of working memory resources.

Cognitive load theory: An instructional design theory that reflects the way information is processed.

Curriculum flow: The uninterrupted flow of the delivery of teaching for learning.

Decision-making: The cognitive process resulting in a course of action among several possible alternative options that is based in either rational or irrational processes.

Disruption: Any behaviour that interferes with the learning of oneself or impedes the flow of the teaching and learning process.

Emotions: Biological states associated with the nervous system brought on by neurophysiological changes connected with thoughts, feelings, behaviour responses, and a degree of pleasure or displeasure.

Essential Skills of Classroom Management (ESCM): A set of ten teacher skills based on the balance among correction, acknowledgement, and expectations in classroom management.

Feelings: Conscious experience of emotional reactions shaped by personal experiences, beliefs, memories, and thoughts linked to an emotion.

Flow of learning: The uninterrupted flow of learning by students due to curriculum flow.

Four Dimensions: A framework based on decision-making and how interactions influence the environment.

Fulcrum: A person who supplies capability for action, who plays a central or essential role in an activity, event, or situation.

Green footprint first: An interaction by a teacher with a student based in classroom expectations or recognition of student behaviours already meeting those expectations.

Green zone: Teacher-student interactions used to create productive teaching and learning environments through the dimensions of expect and reinforce.

Habit: A learned behavioural solution, a response, which comes to mind almost automatically when a decision problem is encountered

Heuristics: An approach to problem solving that employs a practical method that is not guaranteed to be optimal, perfect, or rational, but is sufficient for reaching an immediate, short-term goal or approximation.

Interpretivist: A sociological approach that emphasises the need to understand or interpret the beliefs, motives, and reasons of social actors in order to understand their social reality.

Intrusion to learning: The interruption to the flow of learning.

Judgement: The ability to decide, the thought processes used to make a decision, and the outcome that comes from the exercising of judgement.

Maximising: A style of decision-making characterised by seeking the best option through an exhaustive search through alternatives. It is contrasted with satisficing, in which individuals evaluate options until they find one that is *good enough.*

Mob buy-in: The three groups of students within a classroom that gain a sense of belonging through teacher interactions.

Moods: A positive or negative valence; for example, people refer to being in a *good mood* or a *bad mood*.

Non rational decision-making: Theories that take into consideration the complex nature of the environment in which decision-making occurs.

Proactive behaviour management: The process of supporting learners to make positive choices that are conducive to learning.

Proactive classroom management: Teacher interactions with students that set clear behaviour expectations to encourage appropriate classroom behaviours and increase the flow of curriculum for teaching and learning.

Productive teaching and learning environment: A learning culture in which students feel a sense of belonging, trust others, and feel encouraged to tackle challenges, take risks, and ask questions.

Professional development: A period of learning undertaken by educators to gain or maintain professional credentials through an intensive and/or collaborative process that ideally incorporates an evaluative stage.

Professional learning programs: Programs accessed by educators for implementing changes to practice, through the acquisition of new knowledge and the reflection on existing beliefs and attitudes in relation to their teaching.

Punitive: An interaction with another that is aimed at inflicting, involving, or aiming at punishment.

Qualitative: A form of research which relies on data obtained by the researcher from first-hand observation, interviews, questionnaires, focus groups, participant-observation, recordings made in natural settings, documents, and artifacts.

Rational decision-making: A multi-step linear process for comparing choices or alternatives in decision-making, based in logic, objectivity and analysis over subjectivity or insight.

Reactive classroom management: The ways in which teachers respond to student misbehaviour or disruption, through interactions that occur after a student is disruptive or off task.

Realism: A form of research philosophy relies on the idea of independence of reality from the human mind. A philosophy based on the assumption of a scientific approach to the development of knowledge.

Reflection in practice: The ability of changing what you are doing, while you are in the moment of doing it, due to heightened awareness.

Reflection on practice: The ability to change what you have done in the past, in future instances, through reviewing the impact it made previously.

Reflexivity: Circular relationships between cause and effect, especially as embedded in human belief structures.

Satisficing: A decision-making strategy that aims for a satisfactory or adequate result, rather than the optimal solution. Instead of putting maximum exertion toward attaining the ideal outcome, satisficing focuses on pragmatic effort when confronted with complex tasks.

Semi-structured interview: A style of questioning guided by topics under investigation rather than as a sequence of pre-planned questions.

Sense of agency: The feelings experienced by teachers that are associated with being in control of their actions and therefore the events involved in teaching practices.

Social Constructivism: A framework whereby individuals seek to understand their world and develop their own particular meanings corresponding to their lived experiences.

Stress: The state of anxiety produced when events and responsibilities exceed one's coping abilities.

Student behaviour*:* The response by a student to the stimulus of classroom environment, both human and physical.

Teacher quality: The characteristics that teachers possess, in reference to what teachers do in the classroom to foster student learning.

Teacher-student interactions: Communications between a teacher and their student/s based on curriculum and behaviour expectations.

Teaching practices: The knowledge and skills applied by a teacher to achieve the goals of a productive teaching and learning environment.

Unproductive student behaviour: Any student activity that is not compatible with the desired learning conditions set by the teacher.

Working memory: The available space in memory processing that remains after cognitive load is considered in making decisions.

LIST OF ACRONYMS

AITSL:	Australian Institute of Training and School Leadership
APST:	Australian Professional Standards for Teachers
DoE:	Department of Education (Queensland)
ESCM:	Essential Skills of Classroom Management
FBA:	Functional Behaviour Assessment
OECD:	Organisation for Economic Co-operation and Development
PBL:	Positive Behaviour for Learning
RP:	Restorative Practices
SWPBS:	School-wide Positive Behaviour Support

CHAPTER 1 INTRODUCTION

"Everyone who remembers his own education remembers teachers, not methods and techniques. The teacher is the heart of the educational system." (Sidney Hook, 1984)

Teachers are the gateway to education. The decisions that teachers make in their everyday work are therefore instrumental in creating the environments that represent the educational system in which they operate. Every day, people make decisions as a natural part of their life, with the majority based in automated responses. Some decisions will change the path of a life forever. As such, the process of decision-making is of ongoing interest to researchers and educators. This study explored the influences on teacher decision-making, and how these decisions change the nature of teacher-student interactions, and therefore the classroom environment. Teacher-student interactions situate the teacher as the greatest influence in establishing the classroom environment (Fisher, Frey, Smith, & Hattie, 2021).

The teaching environment is layered with a myriad of factors that are perceived by teachers to be outside of their control. However, teachers are the architect of their classroom environment, as they are in control of the decisions they make within that classroom. To attain the knowledge and skills for balancing curriculum demands with classroom behaviour management, teachers need opportunities to develop, reflect, and review their teaching practices. In this process, teachers form new habits that reflect changing educational directions (Hobbiss, Sims, & Allen, 2021). Effective teachers seek professional learning and collegial support to take control of their informed decision-making within the context of their classroom.

1.1 Overview of the chapter

This chapter introduces the thesis, outlining the background (section 1.2) and the importance of managing behaviour in classrooms (section 1.3), as well as the context of the study (section 1.4) and the purpose of the research (section 1.5). The research questions (section 1.6) are briefly described in advance of a discussion on the significance of this research (section 1.7). Finally, an outline representing the organisation of the remaining chapters of the thesis (section 1.8) concludes the chapter.

1.2 Background to the study

On any given day in any country, planes are filled with the typical announcements that prepare passengers ready for take-off. This was the case for the 150 passengers with five crew members onboard United States (US) Flight 1549 on January 15, 2009. This was a scheduled commercial passenger flight from New York City to Charlotte, North Carolina. At exactly 15:05:34 the stewardess began her daily routine with:

> *Good afternoon, ladies and gentlemen. Welcome on board US Airways flight one-five-four-nine, with service to Charlotte. Please take a moment to listen to this important safety information.* (United States of America Government, 2009)

Actions that are repeated become routines and habits of practice that require little cognitive thought and provide room for the working memory to negotiate and consider other actions. The safety reminders from flight attendants are an example of such routinised behaviours. Pilots also follow highly routinised processes to ensure the safety of their passengers and on this day a momentary decision that broke from routine would change the outcome of Flight 1549. The plane landed on the Hudson River, adjacent to midtown Manhattan, only six minutes after take-off from LaGuardia. The change in routine decision-making by the pilots on this day, while operating under pressure, were challenged in the court hearing but were found to be the most appropriate in the given circumstances.

This deviation from the pilots' prior habits in making decisions regarding system failures of significant safety issues requiring emergency landings, resulted in the successful landing with all passengers and crew walking away from what could have been a catastrophic fatality. This study was interested in how decisions are made, and how the differences amongst people in decision-making are influenced by cognitive load and affect.

Experience plays an important role in the process of decision-making, as it brings to the consideration of the decision-makers, their past experiences. In the instance of Flight 1549, the captain was Chesley 'Sully' Sullenberger, a 57-year-old former fighter pilot and experienced airline pilot since 1980. He was also a safety expert and a glider pilot, although it would be fair to say that experience alone did not influence the decision-making and outcome on that day. In a few seconds, an outcome can be influenced by the decisions made. Crucially, as demonstrated in the US Flight 1549 example, a momentary decision made by one person can be far removed from the decision many others might have made in that same situation.

While teachers are not making life or death-defying decisions as in the example of Flight 1549, they do make decisions that influence the teaching and learning environment for themselves and everyone else within their learning space. Decisions in classrooms are made with high frequency and often with a sense of urgency. Researchers Borko, Livingston, and Shavelson (1990) summarised that teachers made 0.7 decisions per minute during interactive teaching, or the equivalent of 42 judgements per hour. In another study, Jackson (1990) wrote that elementary school teachers have 200 to 300 interactions with students every hour, averaging 1 200 to 1 800 a day, with most of these interactions being unplanned and unpredictable. Jackson (1990) stated that decision-making requires a high degree of "spontaneity and immediacy" (p. 166), this was evident in both of these studies. These findings suggest that the demands on teachers, to respond to classroom needs, are greatly influenced by the unknown context in which teaching takes place.

In light of the complexity of classrooms and the need for teachers to account for multiple outcomes from a single decision, on top of the high frequency of that decision-making, of relevance to this study were the elements that influenced teachers' decisions that are different amongst teachers when responding to similar situations. It follows that decision-making is a personalised and highly variable process that is more complex than it appears on the surface due to the intersection of nuanced human behaviours and the environment in which the decisions occur.

1.2.1 Impact of society on the classroom

The changes found in the fabric of society impact on the classrooms and teaching practices within that society (Meyer & Bowhay, 2020). One such example is how the land line phone, typewriters, and overhead transparencies of the 1980s have been replaced with mobile devices, computers, and inventions such as Bluetooth and the Cloud in 2021. These changes impact teaching practices through increased access to immediate knowledge based on technological advances for both teachers and students (Kalolo, 2019). Other societal changes include how parents have altered their parenting styles (Lam, Kwong, & To, 2019), relationships between youths and authoritarian figures (Hargreaves, Elhawary, & Mahgoub, 2018) and an attitude by students to share their views during teaching and learning time that challenges more traditional forms of teaching where a student was more passive in the learning process. This creates another layer of complexity to classrooms where the teacher struggles to remain in control (Vogel & Schwabe, 2016). Problems exist where teachers,

who have experienced a multitude of changes throughout their careers and based their practice on techniques in classroom management that were successful previously, find that these practices no longer fit. Furthermore, teachers who are managing classrooms with a continuation of punitive methods for unacceptable behaviours pass their knowledge and skills on to beginning teachers as they are inducted into the profession, and the ways of classroom management from the 1980s and earlier are continued (Curry, Webb, & Latham, 2016).

Research into school effectiveness and the ways of improving teacher quality and their attitudes towards teaching and learning is not new (van der Lans, van de Grift, & van Veen, 2018; Wang & Kuo, 2019). However, the relationships between teachers and students and their interactions that influence classroom environments are changing and researchers are continually responding to societal changes to inform the best methods for quality educational practice (Meyer & Bowhay, 2020). Marzano (2017) advocated that an appropriate learning environment is essential to an effective classroom. His earlier research in 1992 is reflective of a common shift in educational thinking of the time, in which the importance of classroom environments typified changes in the emphasis towards classroom based educational factors. Alongside these findings it was increasingly accepted that teachers played a significant role in students' learning (Hattie & Zierer, 2017; Marzano, 2017).

1.2.2 Changes in Australian society

Since the Sydney Olympics in the year 2000 the population of Australia has grown by 25 per cent; Australia has the fastest population growth in the OECD other than Israel and Luxembourg (Krockenberger, 2015). The Bureau of Statistics (2017) recorded, 3 849 225 students in Australian schools, with 404 580 full time equivalent (FTE) staff of which 70 % are teachers and of that 70%, 1737 are teachers in Queensland schools from the last national census. Australia's population growth continues to expand and in 2017 the projected population growth is that Australia will have an expected population in 2066, as doubled to what it is presently in 2021, to 42 million (Wilson, 2019), with Queensland growth listed as the third highest amongst all states and territories. This population growth will continue to impact on schools, teaching practices, and the education within Australia through the changes these predictions place on teaching practices. The expectation on teachers is that they are to manage classroom behaviours to be able to deliver curriculum. These expectations will come with different guidelines in the fast-moving society, continually causing new challenges that

are far removed from a teacher's current knowledge and skills, as related to through their own experiences as a student within the education system.

Changes in society were easily recognised in schools by the late 1990s, as schools reflected adjustments in educational policy that supported access to all students. Alongside this significant shift in the combination of students who filled the seats in regular classrooms was the inclusion of education as an increasingly important political agenda (Lingard, 2000). When politics entered the classroom, the society in which they operated became more vocal on the needs that schools should meet and with a steadily increasing population, the pressures inside classrooms for teachers to adjust to these demands increased. There are necessary patterns in teacher knowledge and skills for managing student behaviours within a changing and continually developing society. The development of any society is influenced by the population growth, composition of that population and the needs of the transforming economic and political landscape. These all influence the educational system and the ways in which teachers work.

In the classrooms of 2021, students demonstrated behaviours that showed their desire to be seen as individuals and as adults who are capable of making their opinions clear, with high regard to remain members of a large peer group (Spadafora, Frijters, Molnar, & Volk, 2020). These values change with societal expectations and often school classroom behaviour management processes remain trapped in methods used for a generation that was quite different. For example, a shift in authoritarian rule across society has given voice not only to students within the classroom but also to the parents with whom teachers communicate. Parents have become increasingly involved in their children's schooling and the operations of the school itself (Schwab, 2018). The current educational system in Australia, and indeed most Western countries, is one where children and parents challenge and demand that schools demonstrate their accountability for their treatment and education of students. That is to say, many parents are highly involved in schooling decisions and actively seek out to advocate for their child (Fernández & López, 2017).

Attitudes within communities towards troublesome youth overflow into school life (Konold, Cornell, Jia, & Malone, 2018) and staff within schools feel pressure to ensure that disruptive behaviour is dealt with. Across society it is evident that there is a belief that 'old school' values of discipline still hold securely and that communities believe that fast and severe disciplinary methods are more likely to return schools to places of order, these beliefs cause a sense of crisis in schools for teachers (Fields, 2000). If disruptive behaviour can be attended to early, such intervention will result in less escalation, fewer out-of-school

suspensions and fewer out of class consequences (Clunies-Ross, Little, & Kienhuis, 2008; Wang & Kuo, 2019). The challenge for teachers is to learn new skills when faced with a constantly changing environment and to be provided with these skills within the context of current educational practices that are considerate of the changes that each generation faces. An example is the shift from punitive classroom behaviour management styles to more positive methods of classroom behaviour management. This shift towards more preventative and positively based teaching methods is evident in Australian schools through programs and systems that support positive education. All these changes have altered the face of schools and the dynamics of the same. Each factor contributing in its own unique way to groups of students who must remain at school; be their future pathway to enrol in tertiary studies or leave and seek employment or a trade qualification.

This myriad of change in society, classrooms and the knowledge and skills required by teachers to do the work of teaching is impacted by the context in which classroom behaviour management is viewed. The next section will look at the changes that have dominated the discourse through the literature on classroom behaviour management and have been the premise for political and educational reform.

1.2.3 Context of classroom behaviour management

Research prior to 1971 in Queensland schools addressed teachers' attitudes and concerns about classroom control (Logan & Clarke, 1984), and was based in models that structured classroom behaviour management techniques in punitive forms of control such as corporal punishment (Goodman, 1968). A court case in America in 1976, Ingham vs Powell, provided witness to the view on corporal punishment internationally where the record showed regular use of paddling (Powell Jr, 1976), to the degree that medical attention was required. Furthermore a study conducted by Drabman and Lahey (1974), concluded that teachers were 71% more likely to provide negative comments when interacting with students rather than positive comments.

Until the release of The Karmel report in May 1973 (Karmel, 1985), politics played a very minimal role in education and schools were left predominantly to manage classrooms and student behaviours how they saw fit (Musgrave, 1975). With growing advances in political, psychological and educational arenas (Stinnett, 1971), education was about to undergo a significant shift in how classroom behaviour management was viewed and the expectations placed on schools and teachers.

This period of time witnessed changes in Australia reflecting a more inclusive approach to educational practice, regarding children with disabilities, with the commencement of the normalisation principle in the early 1970s (Forlin, 2006). Research by Kounin and Gump (1961) described effective teachers as more likely to use positive classroom behaviour management actions as early as 1958, and subsequently challenged the widely accepted practices of the time on the use of punitive or corrective actions (Ryans, Kounin, Gump, & Ryan, 1961). Teachers were beginning to be told that their ability to perceive and respond differently to the needs of each student was required to build appropriate learning environments (Lightfoot & Carew, 1976). A teacher's sensitivity to individual differences (Kounin & Gump, 1958) and their responsiveness to the individual behavioural and emotional needs of children (Moore, 1973) was the new benchmark of good teaching.

By the early 1970s, Queensland's political shift under the Whitlam government saw that while corporal punishment and punitive measures were still abundant in Australia, and similar countries such as America (Powell Jr, 1976), teachers and schools who used only punitive measures were coming under increased scrutiny (Mahon, 1977). Queensland schools in the early 1970s were found to have continued to place an emphasis on classroom behaviour management through primarily reactive measures, and many programs and policies continue today to implement reactive management methods (Hepburn, Beamish, & Alston-Knox, 2020; Khong, Saito, & Gillies, 2019; Ramakrishnan, Ottmar, LoCasale-Crouch, & Whitehill, 2019). The focus on the management of student disruptive behaviours was on correction, and discipline for unproductive behaviours, rather than reinforcement of appropriate productive learning behaviours (Musgrave, 1975).

The research based in these paradigms challenged the status quo and put forward new thinking that when professional decisions are made on the basis of sound psychological theory, and if those decisions also reflect the teacher's sensitivity to the student and to the situation, learning will be increased (Hunter, 1982). Pfiffner, Rosen, and O'Leary (1985), stated quite simply that punishment did not work, and yet this trend of reactive methods in classroom behaviour management continues into today's educational systems (Aydin & Karabay, 2020; Bozkuş, 2021; Hepburn & Beamish, 2019; Lopez, Pedrotti, & Snyder, 2018; Wang & Kuo, 2019).

1.2.4 Changing nature of classrooms.

The provision of schooling is a massive and ubiquitous undertaking as it impacts on everyone and every society across the world. Education is everyone's business (Littky & Grabelle, 2017). Substantial proportions of public and private expenditure are set aside for schooling, with education universally regarded as a vital instrument that is driven by social and economic policy (Alexandrou & Swaffield, 2016). Therefore, it comes as no surprise that there has been intense interest in knowing how effective the provision of schooling is and how it can be improved. Hill, Rowe, Holmes-Smith, and Russell (1996) recognised the importance of school education and the need to consider reform in response to meeting the constantly changing demands of society.

Concern about the quality of school education became a high priority in all Organisation for Economic Co-operation and Development (OECD) countries in the mid-1980s (Sorensen & Robertson, 2017). However, difficulties exist in conclusively defining an effective school (Ainscow, 2018; Cheng, 2015; Mortimore, 1991). Mortimore (1991) observed that the measurement of the quality of schooling is of critical importance at a time when so much school reform in so many parts of the world is being undertaken. Attention had focused on ways of not just assessing the quality of schools, but the circumstances associated with effective schooling, and on using such knowledge to achieve further improvements in quality of education (Fernandes, 2016; Hattie & Zierer, 2017; Kennedy, 2016; Marzano, 2017).

To understand the current crossroads the educational system is at, regarding changes in social norms and classroom behaviour management, it is imperative to clarify the differences that have transpired in the classrooms over this period of time. What is at the root of this is that teachers who currently teach in this system were educated during a time where classroom behaviour management was experienced through a different lens. Gone are the days, in Australian schools, were students sat quietly and did not speak until spoken to. The next section reviews the shifts in education and school-based procedures.

1.2.5 The 1980s to 1990s in Australian education

Throughout the 1980's to the early 1990's the research continued to identify and document specific teacher behaviours that reduced unproductive student behaviours (Evertson, 1985; Onosko, 1989). This period in Queensland schools was witness to changes in student diversity within classrooms that aligned school enrolments and practices through

government changes in laws such as the Educational Provisions Act (Department of Education and the Arts, 2005) and the Disability Discrimination Act 1992 (Australian Government, 1992). These Acts created classrooms of increased diversity within schools.

Towards the end of the 1990s, and leading into the early 2000s, researchers including Kohn (2011) were a driving force in educational change. This period saw the introduction of significant shifts in how the management of student behaviour was approached compared the preceding decade (Department of Education and the Arts Queensland, 1996; Merrett & Wheldall, 1993; Rogers, 1998). Kohn wrote that, "in order to promote students' academic performance in the classroom, educators should also promote their social and emotional adjustment (p.14)". Through this positive approach to classroom management Kohn (2011) believed that teachers would develop ways to prevent disruptive behaviours. The literature from this period forward supports evidence of the increased awareness of the benefits to classroom environments and student outcomes around the management of student disruptions through more positive and proactive approaches (Banks, 2014; Bradshaw, Mitchell, & Leaf, 2010).

1.2.6 The 1990s onwards in Australian education

The mid 1990s saw a further emergence in the interest in, and application of, proactive practices in schools with systemic approaches in regional strategic plans and departmental polices across Australia (Burke, 1992; Dimmock & Wildy, 1995). There was a deliberate and explicit shift in the expected practices of teachers in managing student behaviours (Cranston, 2000), and the expectation of positive classroom management strategies in classroom behaviour management (Colvin, Ainge, & Nelson, 1997), as the primary method to prevent disruptive student behaviours (Christie & Christie, 1999; Fields, 2000). Actions within schools, however, were much slower to match the research that was driving systemic educational change.

Another aspect for change during this period was seen in an article by Connell and Connell (1993), who extended the debate over equity and social justice. Multiple shifts in political and social communities influenced the shift in how knowledge was viewed, as a growing commodity that saw the increased marketisation of education (Lingard, 1993). With increasing accountability placed by policy makers on school outputs and performance, the shift from the welfare state to the competitive state was evident in Australia (Knight, 1995). Significant changes in school leaving age saw the impact compulsory schooling had on

classrooms, with increased student numbers through to Year 12, and vocational education becoming a part of regular school practices, were included in the discussions for catering for the needs of all students (Carvalho, 2015).

From the historical perspectives presented in the literature, the future ways of working for teachers in classroom behaviour management was based in positive ways of thinking and interacting and this will require new knowledge and skills by teachers in classroom behaviour management. This opens the door of investigation into current classroom behaviour management practices and situates the teacher as the greatest agent of change in creating positive teaching and learning environments. The burden of social change then lies with teachers and educational systems to respond to the political, social, and educational needs of the current population.

1.3 Issue of investigation

When the teacher is considered as the fulcrum to classroom environment, the issue under investigation are the elements that influence teacher actions within their teaching practices. At the centre of the classroom environment in every school is the teacher. The fulcrum is defined as anything that is the point at which a difference is made, the thing that plays a central or essential role in an activity, event, or a situation (Yong-Gang, Xian-Cen, Yu-Guang, & Ke, 2020). Furthermore, Yong-Gang et al. (2020) went on to explain that the social attributes of humans can be realised by the unity of their own motility and passivity. The decisions that teachers make will influence the occurrence of positive and negative interactions, with students, within the classroom.

The complexity of teaching is dynamic and within the classroom setting different teachers have differing levels of success, and failure, in the creation of positive teaching and learning environments. Therefore, the constantly changing phenomenon and the expectations placed on teachers in classroom behaviour management were cause for investigation into the decision-making practices that currently exist in classrooms. What emerged was that those teachers within the same demographical setting, same social and educational context, and even teaching the same students, had varying levels of success in the management of students' classroom behaviours. Under these areas of interest, the issues of investigation were:

1. to better understand how teacher decisions influence student behaviour and hence the classroom environment, and
2. the positioning of the teacher as the fulcrum to classroom environment.

The interactions teachers made with students initiated a likelihood of continuance or change in a student's behaviour. To expand on these two key areas of investigation what influences teacher decision-making was of interest to the researcher, along with the interactions teachers have with students who are disrupting their teaching and learning space, and if teacher-student interactions are the key to classroom environments then the teacher is situated as the fulcrum to that classroom environment.

Disruption to the teaching and learning environment elevates teacher anxiety (Hargreaves, 2001), impacts on student achievement (Konold et al., 2018) and results in negative images of teacher control over classroom behaviours (Smidt, Kammermeyer, Roux, Theisen, & Weber, 2018). Of interest to this study was not the disruption itself or how to eliminate disruption, but more-so, the changes teachers can implement to reduce the likelihood of disruption in the first place. Student disruptions will always occur, and when we view them as a result of normal human behaviour rather than 'naughty student behaviours' teachers are more likely to use different strategies when interacting with students. In the world of adults, disruption to the expected rules can be found on a daily occurrence. For example, the road rules require constant policing as adults consistently break the rules associated with driving. Rules being challenged and boundaries being pushed by humans is a common everyday reality. The challenge arises in classrooms when there are numerous students who are challenging different rules within a moment's notice and the teacher must address them simultaneously. The following sub-sections look at the changes to classroom behaviour management; defining classroom disruption and the impact that media has on practice.

1.3.1 Changes to classroom behaviour management

Behaviour management is a term historically used in the literature to describe reactive approaches to behaviour and is still considered to fit under the broad umbrella of classroom management (Bozkuş, 2021). In the context of this literature review, the term behaviour management, will only be used when the terminology was used in the original source. By comparison, classroom behaviour management is viewed as comprising a continuum of

practices, ranging from proactive to reactive and herein lies the defining characteristics of how classroom behaviour management was viewed in this study.

The abolition of corporal punishment in Australian schools in the late 1980s resulted in schools being mandated to review their behaviour management practices, with an expectation to demonstrate inclusion of positive school-wide teaching practices (Tiwari, 2019). This trend in policy change continued from the late 1980s to mid - 1990s as Australian state school educators were encouraged to give more weight to alternative methods in classroom behaviour management than those such as corporal punishment for managing student disruptions (Corcoran, 2003; Hemphill et al., 2010; Louden, 1985). Shifts in government-introduced polices demonstrated the increased expectations of communities in schools to develop and implement more positive support systems around proactive behaviour management practices (Froiland & Smith, 2014; Hopkins, 2011; Slee, 1994; Sugai & Horner, 2006).

Nevertheless, punitive management of student disruptive behaviours continues in Australian schools, and while physical methods such as the cane are no longer condoned nor implemented, punitive practices from detentions through to the use of out of school suspensions and withdrawal of students from classrooms are regular within state school procedures (Manolev, Sullivan, Tippett, & Johnson, 2020). For example, across the state of Queensland in 2019, more than 400 students on average each day were suspended or excluded from state schools (Lynch, 2020). This indicates that the break from traditional methods that are interwoven into the fabric of school-based practices are difficult to remove. Such punitive practices in classroom behaviour management and school-wide systems have a multitude of negative consequences on students, schools, and communities.

Out of class or out of school suspensions result in lost curriculum time, and out of classroom learning becomes another challenge to be met by the classroom teacher, who is responsible for ensuring students can access the work missed during suspension (Giallo & Little, 2003). Education policy stated that education is for all students (Swayn, 2018), and while suspensions may provide time for teachers to teach with reduced disruption, they do not solve the problem of how we change our classroom behaviour management practices to reduce the likelihood of this happening. There is an imbalance in the intention to provide positive classroom behaviour management practices with the reality of current systemic practices. This imbalance in desired procedures and the actual reality of procedures, leads to the knowledge and skills required by all involved in school-based decision-making, on how to equip and establish practices that are truly embedded in positive educational reforms. To

understand the complexity of the issue, it is relevant to begin with defining what classroom disruption is.

1.3.2 Defining classroom disruption.

The literature provided a plethora of definitions and examples of disruptive student behaviour (Leaman, 2007; Simón & Alonso-Tapia, 2016). The term disruption has consistently emerged from the research and is most commonly defined as behaviour that interferes with the learning of oneself or others (Muna, 2019; Närhi, Kiiski, & Savolainen, 2017; Trussell, Lewis, & Raynor, 2016). Broader definitions include specific actions of students such as: verbal misconduct, intimidation, physical misconduct, swearing, calling out, and not following teacher instructions. Expanding on these actions, Närhi et al. (2017) included: arguing with the teacher, intent to cause injury, rejection, stealing friends, and delinquency.

This study defined disruption as any behaviour that interferes with the learning of oneself or impedes the flow of the teaching and learning process. The research focus was on the interactions between teachers and students that influence classroom conversations. Conversations between teachers and students are predominantly situated around two areas: those of behaviour or curriculum. In this study the act, of student disruption, is inconsequential. In saying this, it is not to minimise the importance that student disruption plays in the flow of teaching and learning, but rather the focus of this study is on how a teacher responds to student behaviours to increase curriculum conversations and reduce behaviour conversations. Therefore, the behaviours referred to throughout the study may have many manifestations and different forms but remain a secondary concern to the interactions that are initiated by the teacher in response to those behaviours. It would seem fair to surmise that any teacher behaviour that impacts on student learning, or interrupts the flow to teaching and learning, is worth consideration and action. Herein, lies the focal point of this study, the interactions between teachers and students.

Bowditch (1993) found that when the conversation at a systems level, and school level of classroom management, is focussed on disruptive or challenging students, there was evidence to support a negative teacher bias towards one group of students over another. Students from low-income backgrounds, with frequent truancy and absenteeism, or with records of suspension or disciplinary actions, were referred to in hallway conversations using negative language (Bowditch, 1993). These conversations were shown to influence how

students are perceived and therefore how they are managed. These demographic factors are the very indicators that teachers used to define students at risk and these factors correlate with students who drop out because they are dealt with using punitive measures of discipline. Therefore, within the context of a changing society as discussed earlier, the differences within a society also impact a teachers' view of how to implement classroom behaviour management practices.

From her study, Bowditch (1993) listened to the disciplinary conversations amongst staff, and between staff and students. These recordings identified that the dialogue of the discipline office staff routinely included negative attitudes towards students. These accepted views for students who are at risk of school failure, through suspensions and time out of school, may be one unacknowledged mechanism through which schools perpetuate pressure on teachers to manage minor to major disruptions in classrooms. The inclination of both society and schools to sway towards punitive measures to manage repeated *offenders* and student disruptions adds to the conflicting state of the system (Luke, 2018).

Through investigating the current educational requirements to include more preventative and proactive classroom behaviour management practices, it was common to find continued practices that support punitive methods under the guise of new names. For example, the positively term, *behaviour support rooms* are a punitive practice whereby students are removed from class to sit supervised in a silent room. With the suggested difference between desired and actual practice in schools, this study did not aim to investigate the policies under which teachers operate, but rather the difference teachers can make when equipped with the knowledge and skills to reduce the need for students to be managed. These perceptions of what is done and what society expects are further influenced by media and the perception media portrays of students, society and the teaching and learning environment.

1.3.4 The impact of media on schools

The media has driven a narrative that questions teacher effectiveness in classroom behaviour management practices, not based in research but rather opinions that are intentionally designed to evoke emotional responses from the public (Alezra, 2019). Changes in the general tone of society have a direct impact on schools and the children we teach. Negative media reports on student behaviours in schools, and the ability or inability of teachers to manage these situations, have a direct impact on schools and the teaching of children. Disruptive student behaviour is not a new phenomenon, explored by Galloway,

Ball, Blomfield, and Seyd (1982) who stated that disruptive behaviour in schools is the inevitable manifestation of increased reporting of violence, in the world as a whole. Such negative views of schools and student behaviours is easily located throughout Western media and met with a plethora of media related responses on how to manage and respond to challenging and unproductive behaviours (Aydin & Karabay, 2020; Banks, 2014; Dursley & Betts, 2014; Hepburn et al., 2020; Oliver, Wehby, & Nelson, 2015; Rogers, 2015; Wolff, Jarodzka, van den Bogert, & Boshuizen, 2016). The pressure associated with negative perceptions attached to teaching, formed within society through the media, cause anxiety to those doing the work of teaching (Stroope, Walker, & Franzen, 2017).

Advice is readily given to schools by all sectors, on how to manage the challenges that arise in schools from changes in society. Advice that often lays blame on teachers, which is fuelled through sensationalised and reactive media reports, through reference to a small number of extreme cases (Elton, 1989; Marshall & Paul, 2018). Alongside this, the media plays an important role in the perceptions they feed the population who influence a countries politics though voting and, in such circumstances, impulsive changes in political agendas have been seen to occur that impact school initiatives (Rutkowski, Thompson, & Rutkowski, 2020; Warmington, Gillborn, Rollock, & Demack, 2018).

Often the perceptions of the community and the society in which schools operate, coupled with political issues, are the motivation for educational change (Vesikansa & Honkatukia, 2018). This agenda is often further influenced through media reports. However, educational reform that responds to media, and is used to base changes to educational policy and practice, will not provide teachers with the knowledge and skills they need to meet these changing demands on their practice. The gap then lies between what a society thinks is necessary and how educational reform will support the transition that is necessary around change.

1.3.5 Current educational reforms

The Australian government responded in 2004, to the United Nations Educational, Scientific and Cultural Organisations (UNESCO) call for significant changes to education, through further changes to policy, and the introduction of school-based behaviour plans to reflect these expectations (UNESCO, 2004). The need for educational sustainability driven by a series of values, with respect placed at the centre of those values expected in education, was the new focus for development (2004). These changes made it increasingly difficult for

any school, even with increased levels of autonomy in schools during this period, to ignore the international push towards educational changes that would impact on classroom practices and the management of student disruptions. Political directions from the early 2000s would secure a new trend, which would finalise policies shifting away from punitive forms of discipline within classrooms and schools, towards proactive means of classroom behaviour management. Governments and state school systems began to look for new ways of working with schools to design and implement accountability around supportive and caring educational environments (Rowbotham, 2010).

Brophy (2006) continued to reiterate that students, who are taught in positive environments, feel safe and unthreatened, can share ideas and feelings without fear of ridicule, and that such classrooms build a sense of collaboration instead of competition with students sharing their knowledge. With this systemic change sweeping across Western countries, Stoughton (2007) detailed the challenge was on teachers to be the change that they wanted to see in their classrooms. The difficulty lay in that these teachers were educated and trained within systems that relied on punitive discipline structures and the need for them to gain new and expected skills to manage classroom behaviours was required (Kounin & Gump, 1961).

The other challenge was found in schools that now had increased autonomy introducing new positive whole school behaviour systems. Ibrahim and Al-Taneiji (2012) summarised the complexity of schools during this period, stating that there is a general assumption that the presence or absence of effective school leaders, the presence or absence of positive school climates, and the presence or absence of positive attitudes of teachers does, directly and indirectly, impact on student disruption, academic achievement and teacher self-efficacy (Howat, 1990).

The question of school improvement is reflected in policy changes through government reform, with one such example clear in Australia's announcement of an ambition to be within the top five countries in the Programme for International Student Assessment (PISA) by 2025 (Gorur & Wu, 2015). Such political agendas place increased stress on expected student outcomes and increase the pressure on teachers to have students performing well (Kilic, 2020), increased for curriculum conversations over behaviour management conversations. Pressure for performance and improved outcomes from all students, including students who are below benchmark due to absenteeism, health issues, and the like, become competing priorities for a teacher in establishing classroom environments that meet the needs of all students (Goddard, Skrla, & Salloum, 2017). When teachers are under stress their classroom

management practices revert to what is well known and the use of reactive strategies to manage disruptions are more likely to prevail (Harmsen, Helms-Lorenz, Maulana, & van Veen, 2018).

Opfer and Pedder (2011) stated that the importance of high performing schools, improved teacher quality, and increased achievement in student learning has led to a deep concern with the professional development of teachers. For teachers to do the work of teaching, access to current knowledge and skills is vital, as are the design and delivery of programs that increase transference of these knowledge and skills to teaching practices. One way in which schools are aiming to meet the developmental needs of teachers is through observation and coaching cycles within their teaching day (Desimone & Pak, 2017). Such cycles provide teachers the time they require and the opportunities to observe and reflect on their own practice as well as the practice of their colleagues.

The emerging theme in schools, under the banner of collegial engagement and the open-door strategy, encouraged teachers working with teachers to develop the knowledge and skills needed in more targeted areas (Jiang & Smith, 2017). The concepts of coaching and observational practices are reflected in terms such as instructional leadership, which removes the long-held concept that classrooms operate in a vacuum and behind a closed door (Waters, 2017). The practice in Queensland schools continues to increase with an expectation that teachers are watching others work and develop their knowledge and skills through collegial frameworks (Bell & Thomson, 2018). For some teachers, changing their current view on coaching and classroom observations was a significant cultural shift and challenges their teaching practice, while for others it is part of what they do every day.

The research reviewed, supported the benefits to teachers, of open-door classrooms for development and growth in knowledge and skills as a means for capturing the social assets in those settings (Joyce, Murphy, Showers, & Murphy, 1989). It is within these areas of teaching practices, classroom interactions, classroom environments and the attainment of the knowledge and skills to make good teaching decisions that this study investigated the benefits of classroom observations in teaching practices.

1.3.6 The teacher makes the difference

This research investigated the elements that can be influenced by teachers in creating productive teaching and learning environments, without blaming the multitude of external factors that certainly do have an influence over the behaviours of students (Abd Elhay &

Hershkovitz, 2019). The difference between classroom environments becomes apparent when in the same school you can ask the question: How is it that one student who is disruptive in a classroom for Teacher A, is not disruptive in any way for Teacher B? The early literature on the management of student disruption cited concerns relating to loss of control over students as related with the quality of teaching and teacher effectiveness of classroom behaviour management (Bozkuş, 2021; Greenwood et al., 1979).

This difference could be accounted for through the evidence found on the varied approaches to classroom behaviour management (Aguilar, 2020; Hertiki, 2017; Strader, 2018). Within these findings in the literature there was little evidence on how these teachers, who had less classroom disruption, made decisions to create these environments (Kenwright, McLaughlin, & Hansen, 2021; Page & Jones, 2020). To summarise, what was absent from these studies was the specific information about the knowledge and the skills that teachers require to be effective in their teaching practices. To develop teacher knowledge and skills to create productive teaching and learning environments, it was essential to review these historical perspectives around classroom behaviour management (Addimando, 2019; Bozkuş, 2021).

This study distinguishes itself from other research (Armstrong, 2018), which has a significant focus on classroom behaviour management, by placing the perspective of the teacher at the front of the conversation through the desire of understanding what teacher behaviours are more likely to create productive teaching and learning environments. Teacher behaviours were linked directly with the focus that followed throughout the 1980s as the quality of the teacher became the subject of investigation in developing productive teaching and learning environments (Sorensen & Robertson, 2017).

1.3.7 Teacher knowledge and skills as a measure of effect

The 1980s were dominated with research that demonstrated that schools make significant contributions to the variance in student outcomes with a growing focus on the teacher themselves as an agent for this difference. Unfortunately, once the conversation limits a teacher's ability by quality alone as measured through others scrutiny, this term is defined through the perspective of stakeholders with different agendas in the educational playing field (Ingvarson & Rowley, 2017). Such conversations led to questions around performance-based pay and measurement of teacher practices, when in reality the classroom is such a dynamic and complex setting, that any teacher could fall within a category of

competent or incompetent based on any given day. To measure teacher performance through a single observation or inspection of teaching, opens the door for practices that do not align with the term quality teaching. Rather than discuss the quality of teachers and teaching, this paper looks at the impact teachers have on the teacher-student interactions through their own lived stories in teaching practise.

In more recent times, research by Hattie and Zierer (2017) has continued to show that the difference amongst teachers are significant. Furthermore, Hattie (2009) stated that:

> … in Visible Learning … the messages and evidence are based … on what has worked successfully in so many classrooms. It is a recognition of the critical importance of how excellent teachers think. It is about having multiple sources of evidence about impact on all students, and esteeming … and publicly and privately valuing…this evidence of impact. (p. 177)

Highlighted is the importance of this evidence of a teachers impact on classrooms. Hattie and Zierer (2017) discussed that attention to evidence of impact will improve teaching practices and student outcomes. While acknowledging that any teacher input will achieve some student learning, they recommended focussing on the teachers and their ability to teach, as that is what influences much of what occurs within the classroom (Hattie, 2012).

The work of teaching occurs in a sense of isolation once in the classroom, and while the focus of the system is to share practice through collegial engagement, the reality remains that teachers do their work predominantly alone (Sutcliffe & Whitfield, 2018). This isolated practice compounds the ways in which teachers work as practice reflects the knowledge and skills that are based on experiences (Mayer & Mills, 2021). To increase the knowledge and skills in teachers and their teaching practice the system needs to support the time and processes required for teachers to actively engage in collegial practices (Bozkuş, 2021). One example is the development of classroom behaviour management practices. Teachers cite classroom behaviour management as one area they feel ill-prepared for at the completion of their university programs and that most skills for managing classrooms are learned in the classroom (Hepburn et al., 2020). When a person feels poorly equipped to do their work, they will rely on prior experiences to find solutions to problems that are represented in their work. This gap between what is needed and what is available for teachers to draw upon in making decisions in classrooms will develop skills in teachers that are based on what they have known rather than what is relevant and successful. Past experiences alone cannot

provide the knowledge and skills required for the development of common practices across an organisation.

Teachers are the pivotal point of difference in classroom environments (Hattie & Zierer, 2017). The purpose of this study was to investigate what teachers can control within their practices to reduce the frustration and negative affect associated with unruly student behaviours. Furthermore, the study sought to investigate the influence teacher decision-making has on their classroom environments. This research makes an important and original contribution to existing knowledge about the elements—other than student behaviour alone—that contribute to the classroom environment. Teacher decision-making is the fulcrum to productive teaching and learning environments, meaning that all decisions made by a teacher influence the environment in which teaching occurs, and learning takes place.

The study examined in detail the classroom interactions between teachers and students and mapped the patterns of differences in teacher-talk between teachers with positive and negative affect. Language patterns were used to establish the affect a teacher associated with their teaching practice when recalling an incident in classroom management and classroom observation provided data to calibrate what a teacher said and what they did in practice.

Based on these fields of research, this study removed itself from laying judgement on the quality of a teacher, and rather was focused on understanding the differences amongst teachers and their own views of success in their classroom behaviour management. Through the lived stories of participants, it was intended that their experiences could provide evidence on these differences amongst teachers and classroom environments, which could in effect change the way professional learning programs are viewed and implemented. When teachers feel increasing pressure from external factors that influence their ways of working, their teaching and learning is impacted. As an experienced teacher it is in the next section that I share my insights as an educator, administrator, and leader of professional learning programs, and how these experiences situated me as the researcher of this study.

1.4 Biographically situated researcher

As an experienced and passionate educator, I value the work of teachers and acknowledge the complex environment in which teachers do their work. I am also highly aware of the mismatch between what is expected and the preparedness to do the work in this fast paced and constantly changing educational sector. Educators are expected to meet the

needs of the society in which they operate, and thus the pressure is placed on schools and teachers to seek ways to gain the knowledge and skills to do the work of effective teaching in constantly changing classroom cultures.

I believe the responsibility to provide teachers with the knowledge and skills, lies with those who induct, train, and prepare teachers through their early career and in school-based professional learning programs. This would provide teachers with the optimal chance to become effective practitioners. My experience has shown that many teachers do not have, nor believe they are equipped with, the knowledge and skills to be effective in the area of classroom behaviour management. During a time where evidence-based practices dominate the educational discourse, programs based on experience alone do not suffice in providing this foundation for teacher induction.

Alongside this process of induction, comes the need to replace staff who leave the school throughout a school year. My previous position, as a Deputy Principal managing human resources, found me replacing numerous teachers on a regular basis as they left the teaching profession. Other Deputies in Queensland were faced with the same dilemma, of inducting new staff with increasing occurrence. For example, in one term, my son, in Year 9, experienced 13 teachers during his 10-weeks of science classes. Such a high turnover in school staffing, impacts students, schools and those teachers required to fill the inevitable gaps created through such discontinuity.

To address some of these concerns, I initiated professional learning programs for both beginning and experienced teachers. One of these programs was Classroom Profiling, from the Department of Education, Queensland, for which I began to investigate the benefits that this professional learning had on my own teachers' confidence in the classroom. Following this initiative of my professional work, I began an academic research journey to better understand the impact of this professional learning program on teaching practices. In the early stages of the study, as the research questions were refined, it became evident that the program on its own was not the fulcrum to effective teaching. Rather, it was the decisions made by teachers that determined the balance of the outcomes.

This realisation shifted the focus of the study on a single professional learning program, to teacher decision-making as the key indicator to effective teaching practices. As the researcher, I transferred my attention toward investigating the decisions different teachers made in their practice that changed the classroom environment. From the participant interviews and the classroom observations, themes emerged that led to the inclusion of cognitive load and affect as influencers on teacher decision-making.

The shift in my research and the thinking that informed the research design, was based on understanding the difference between confidence to do the work and actual ability in doing the work. This change is best described through an analogy to my personal experiences in air travel. I am a competent and relaxed traveller as I have regular exposure to flying. Furthermore, I have a good knowledge of how an aircraft operates, based on my studies of physics in school and post-school. Due to my personal interest, one day I plan on having a pilot's license. Therefore, it could be said that I have a lot of experience travelling in planes, some knowledge on how planes work, and a high interest in aviation; yet I have no formal training or professional skills associated with flying a plane. While my knowledge gives me confidence in the workings of an aircraft, it does not equip me to do the work of a qualified pilot, and the likelihood of someone wanting me to pilot their aircraft would be minimal. As such, the knowledge, and skills that individuals believe they have, based on their past experiences, do not sufficiently set them up to be proficient operators in the current work required. This could be likened to expecting teachers to do their work effectively without the comprehensive knowledge and skills, nor the time and space, to practice these skills. Contradictory to this pattern of thinking on how to develop new skills, the research tells us that most of the teacher knowledge and skills in classroom behaviour management are learned through on-the-job experiences in the classroom (Paramita, Anderson, & Sharma, 2020).

Like any profession, teaching is based on a particular set of knowledge and skills that establish the effectiveness of those doing the work. Teaching as a profession includes a vast diversity amongst its practitioners and demands evidence from intentional research into how teachers can create optimal teaching and learning environments. It is within this space I was interested in how teachers' decisions are made and what influences their decisions in their teaching practices. Having knowledge based on prior experience is quite different to knowledge and skills developed in practical experiences. As an experienced teacher, I have seen teachers enter their career with a host of experiences that will inform their decisions daily. A lot of this prior knowledge is based on prior experiences through the lens as a student rather than the lens of a teacher. If we compare this thinking to the travel analogy, I am confident in flying a plane through the lens of a passenger rather than the lens of the pilot. This does not qualify me to do the job of flying, nor the equivalent of teaching.

As a Deputy Principal, I believed that one reason I replaced numerous teachers over many years was due to a failing in induction programs that fell short of traversing the gap between university and classroom, as teachers could not adapt to the changes in student

behaviours and were influenced by frustration in external factors that impact student behaviours. Decisions in any professional practice are informed with a heavy bias of knowledge of what we already know, and what we think we already know due to prior experiences.

With the constant shifts in schools to match education policy and societal influences, continual change is needed for teachers and teacher induction programs, to access new and current information and appropriate new paradigms to assist them in meeting the demands of their job. Therefore, surmising that it is in the best interest of educational organisations to provide access to new information and professional learning programs in the appropriate knowledge and skills required for classroom practices for teachers to be confident in creating productive teaching and learning environments.

1.5 Purpose of the study

The purpose under investigation was to explore the influence teacher decision-making has on the classroom environment, and how the decisions teachers make add to or detract from their desire to teach. Through the examination of the influences on teacher decision-making that impact teacher interactions with students, and how these interactions change the classroom environment. The study did not aim to critically evaluate student behaviours, the effectiveness of classroom behaviour management techniques nor teaching practices but aimed to understand the differences among patterns in teaching and how teachers' knowledge and skills changed the teaching and learning environment. In drawing on seminal decision-making theories (Betsch, 2014; Betsch, Haberstroh, Glöckner, Haar, & Fiedler, 2001; Cooksey, 1999; Simon et al., 1987), the research aim was descriptive, seeking to capture and document the processes and deliberations undertaken by teachers when considering the choices in teacher-student interactions. The model used to achieve this outcome came from an eclectic combination of decision-making theories combined with the complexities of teaching and professional learning programs that led to the conceptual framework for the study, see Figure 3.1. The study investigated how teachers gained and applied the knowledge and skills through professional learning programs to be the architect of their own productive teaching and learning environments.

1.6 Research questions

The issue of investigation, to create productive teaching and learning environments through the teacher as the agent of change through classroom interactions, four guiding research questions were proposed to understand how teacher decision-making is the fulcrum to a productive teaching and learning environment:

The central question addressed by this research was:

> How does teacher decision-making impact on the development of productive classroom environments in teaching practice?

The following guiding questions shaped the study:

1. What influence does cognitive load and affect have on teacher decision-making in the classroom?
2. What difference does the Classroom Profile program make to teaching practices?
3. How did the Four Dimensions professional learning program change teaching practice?
4. Do the decisions teachers make impact on the flow of teaching and learning?

A sequential, qualitative study design was chosen as the most appropriate approach for answering these questions, across two phases, because it provided an in-depth, investigative approach that was situated within the context of the classroom (Flick, 2018a). Each question provided an inquiry that contributed sequentially to the overarching issue of investigation.

1.7 Significance of the study

Research into classroom conversations can be broadly sorted into two areas: those around curriculum, and those around behaviour (Kennedy, 2016). Curriculum conversations add to the flow of learning and curriculum and are a source of productive interactions between teachers and their students that support students in their learning (Wang, 2019). Behaviour conversations on the other hand are those interactions between teachers and their students that are directed to acknowledge and correct the students' behaviour during the learning process (Richmond, 2007a). Reference is made in the literature to the teacher as the key stakeholder who makes the difference to the classroom environment (Hattie, 2016). As such, teachers are the fulcrum in the creation of productive and effective classroom environments through the decisions they make. The research into decision-making is vast,

yet the field that is specifically related to teachers as classroom decision-makers is limited across the literature (Ingram, Louis, & Schroeder, 2004).

1.8 Thesis outline

This chapter has outlined the background for the study, shared the context, research questions, and described the purpose and significance of the research. A review of the literature will be presented in chapter two, investigating current research on student behaviour, teacher decision-making, and professional learning programs. Chapter three presents the conceptual framework for the research. The methodology and research design for the study are outlined in chapter four, including participants, data collection methods, procedures, timeline, analysis tools, ethical considerations, and limitations. Chapter five presents an article published in the Journal for Teacher Education on the influence of cognitive load and affect on teacher decision-making, leading into chapter six (journal article submitted and under peer review) that develops the discussion and findings of the impact of the Classroom profile program on a group of government high school teachers in Australia. Chapter seven presents the importance of effective professional learning program linking to the final journal article in chapter eight (submitted and under peer review) which presents the findings with the data from the survey to discuss the possible impact of a new professional learning program, the Four Dimensions, that leads to the conclusion in chapter nine. The document closes with a reference list and appendices.

In the next chapter, a large and growing body of literature is presented that has been reviewed critically to highlight the issue under investigation, and to better understand the influences on teacher decision-making impacting the creation of a productive teaching and learning environment.

CHAPTER 2 LITERATURE REVIEW

Let us pick up our books and our pens. They are our most powerful weapons. One child, one teacher, one book and one pen can change the world (*Malala Yousafzai, 2013).*

Education is the one thing that can change a single life, a community, a society, and a country. Through education, books and pens, the world becomes a place where knowledge aides in the betterment of mankind. The education known in Western society is under constant states of change and continues to meet these changes with research and review of practices for the future.

Chapter one developed the background in which this study was situated with a focus on the changes to teaching practices in classroom behaviour management. The literature review has been prompted by the central research question: How does teacher decision-making impact on the development of productive teaching and learning environments in practice?

This literature review continues from a perspective to investigate the influences on teacher decision-making in the classroom. Teachers make a significant difference to the climate of the classroom based on their interactions with students and how these interactions are shaped through teacher knowledge and skills.

2.1 Overview of the chapter

In this chapter the literature review includes: the background of classroom behaviour management and impact on schools (section 2.2); a review of current school positive learning programs beginning with an introduction to positive psychology and its impact on educational practices (Section 2.3); the impact of student behaviour (section 2.4), concluding with the chapter summary (section 2.5).

This literature review uncovers concepts and ideas that inform the development of a framework for teacher decision-making in their teaching practices. Classroom environments are based on teacher decisions and their choices when interacting with students. The choices that are made influence their working environment and the achievement of curriculum goals (Eggleston, 2018). This chapter begins with a review of programs used in schools to develop positive learning cultures, including a discussion on the impact of student behaviour on the flow of teaching and learning. The inclusion of positive psychology and positive based educational practices were found to drive the current educational reforms across Western

countries in achieving positive teaching environments. The expanding body of literature supporting the necessary conditions to meet professional learning needs of teachers was reviewed with a critique of the current literature to identify a gap that has justified the significance of this research.

2.2 Background to the research

In this section, the background of the study is outlined, and reference is made to the literature aligned with classroom behaviour management to identify the issue of investigation. As classroom behaviour management has been recognised as a key contributor to teacher attrition (Skaalvik & Skaalvik, 2021), the interaction between teachers and students through teacher decision-making has become a focus of educational research (Blackley, Redmond, & Peel, 2021).

In the past, schools punished students for infractions of the rules, which prior to 1995 often involved punitive measures such as using the cane, the strap, public humiliation, and shaming. In 1992, a decision was made to phase out corporal punishment in Australian schools (Tiwari, 2019). This decision resulted in corporal punishment being banned in five of the eight Australian states and territories, while similarly in the same period in the United States it was banned from public schools in 31 of the 50 states (Gershoff, 2017).

With the abolishment of corporal punishment, the Queensland school system moved away from punitive strategies in intention, yet some of the approaches used within schools continue to be punitive in nature (Gershoff, Purtell, & Holas, 2015). A fine line exists between expected educational reform and current teaching practices. For example, physical punitive methods have been replaced with actions such as detentions, withdrawal rooms and out of school suspensions (Swayn, 2018).

As schools strive towards a desired culture of positive practices, in reality, some redirection and correction strategies that teachers continue to use to manage student behaviours in classrooms are more akin to the sentiment shared in Shakespeare's Romeo and Juliet; *that which we call a rose by any other name remains a rose* (Holderness, 1988). The rose is represented through the system expectations that are reflected in policy and procedure but are not necessarily enacted by school administrators or teachers in classrooms. The research question of this study considers teacher decision-making as the fulcrum to a productive teaching and learning environments.

A number of Queensland schools have easily identifiable procedures based on a *step system* listing punitive consequences that increase in severity as students continue to break the rules (Bryan, 2017). Punitive forms of classroom behaviour management in schools manifest in consequences that are not associated with the behaviour in which they are aligned. For example, an unnatural consequence could be when a student does not have the required learning materials for class and, as such, is given a lunch time detention which has no logical consequence to the lack of organisation. Other such forms of punitive methods include: withdrawal from preferred activities, removal from peers and learning environments, referral to behaviour rooms or withdrawal rooms and the use of buddy class. In more significant forms of punitive punishments, student consequences include suspension or exclusion from school (Taylor & Kearney, 2018). It can be surmised, then, that society still believes that young people need to learn right from wrong by experiencing an unpleasant consequence that is imposed as a punishment (Tiwari, 2019). That is, the perspective that student behaviour will change through punitive methods, continues to be reflected in society and schools (Newton & Robinson, 2019).

Studies show that punitive practices such as suspension potentially impede student success (Augustine et al., 2018). Correlational studies have shown a link between suspension (a punitive behaviour management method) and lower student achievement (Skiba, 2014). Similarly, a study by Swain-Bradway, Pinkney, and Flannery (2015) found suspension to be the top predictor of students dropping out of school. The literature consistently reported negative outcomes for students where punitive consequences were applied for behaviour disruptions (Gershoff, 2017). The actions of teachers in the management of students' behaviour will influence the escalation or de-escalation of student behaviours. As such, the knowledge and skills teachers have in regard to their classroom behaviour management are vital to their success in making decisions that are foundational for positive classroom interactions.

The term *productive teaching and learning environment is* described by the researcher as any learning culture in which students feel a sense of belonging, trust others, and feel encouraged to tackle challenges, take risks, and ask questions. It follows then that teacher's decision-making and subsequent actions should be more aligned with supporting students to behave in ways that are conducive to learning through positive interactions rather than by administering punishment-based consequences that are aimed at the correction of student behaviours. From this point of view, the purpose of delivering a consequence is to reduce the disruption to the flow of teaching and learning, to negate future episodes of repeated

inappropriate behaviour and to preserve positive teacher-student relationships through positive interactions.

The decisions made by teachers, and the interactions that eventuate from these decisions, potentially enhance or damage teacher-student relationships within the classroom (Kutsyuruba, Klinger, & Hussain, 2015). The literature has identified a shift in international policy towards positive teaching practices and the desired outcomes for schools to reduce the punitive nature of consequences attached to management practices (Hannan, Hamilton, & Kaufman, 2019; Vesikansa & Honkatukia, 2018; Wardman, 2016). This shift reflects the practices of developing supportive classroom environments. Productive teaching and learning environments are observed as essential for learning (Reveley, 2016) and it is increasingly obvious that Queensland schools, as the context in which this research is situated, are intentionally adopting programs that aim to meet the goals of positive classroom environments (Hepburn & Beamish, 2019).

2.3 Review of current school positive learning programs

This literature review found programs that provided teachers with systematic approaches to create positive school environments (McGarrigle, Beamish, & Hay, 2021; Preciado, Jalalian-Chursky, Norton, Rasikawati, & Eigenbrood, 2021). The programs reviewed here were those demonstrating a history of evidence-based research in their implementation to classrooms internationally and included: Positive Behaviour for School (Sugai & Horner, 2020); Positive Behaviour for Learning (Reddy, Baghaei, Vermeulen, Hilton, & Steinhorn, 2017); Functional Behaviour Assessment (Fahmie & Luczynski, 2019), and Restorative Practices (Hammel, 2018). Underlying each of these programs or models were consistent messages of positive interactions between teachers and their students. The seminal work from the field of positive psychology was a driving force int eh change that was evident across the literature.

2.3.1 Positive psychology

This study focussed on the influence teacher decision-making has on classroom environments and teaching practices. In the pursuit to understand this phenomenon it was evident very early in the research that the literature around productive teaching and learning environments aligned with that of positive psychology. Positive psychology has been

described in many ways, but the commonly accepted definition of the term, Positive psychology, is the study of what makes life most worth living (O'Connor & Cameron, 2017). Furthermore, it is a scientific approach to studying human thoughts, feelings, and behaviour, with a focus on strengths rather than weaknesses (Peterson, Park, & Sweeney, 2008). Positive psychology focuses on the positive events and influences in life, including: positive experiences such as happiness, joy, inspiration, and love; positive states and traits that are reflected in gratitude, resilience, and compassion, and positive institutions through applying positive principles within entire organisations (Kern et al., 2020).

As a field, positive psychology includes an emphasis on topics including character strengths, optimism, life satisfaction, happiness, wellbeing, gratitude, compassion, self-esteem and self-confidence, (Seligman, 2019). All of these themes, when applied to teaching, align with positive teaching practices and productive teaching and learning environments. To begin to understand the decision-making of teachers it is imperative to understand the impact decisions have on the happiness of teachers in their work, along with their wellbeing in doing that work. The inclusion of positive psychology in recent educational research points to a need to learn how to help people flourish and live their best lives, and within the framework of this study positive psychology provides an insight into how positive behaviour links to productive learning environments. People in a positive state experience a sense of flow to their work, lives and self-view. The concept of flow, that underpins the paradigm of positive psychology, aligns with the work of Csikszentmihalyi (2014a), who researched at length the benefits of musicians and athletes in a state of flow.

2.3.2 Flow of learning

The concept of flow was first explored through scientific methods during the late 1900s (Csikszentmihalyi, 2014a). Csikszentmihalyi noticed that many artists fell into a particular state while they were working; this state was characterised by a particularly intense focus and a great concentration on the task at hand, to the point of losing track of time for hours, at a time (Csikszentmihalyi, 2014b). He continued pursuing this topic and noticed it in others as well. Professional athletes, musicians, writers, and people from all sorts of artistic and creative trades frequently reported losing themselves in their work in a similar way (Csikszentmihalyi, Abuhamdeh, & Nakamura, 2021). As more descriptions of this phenomenon were gathered, Csikszentmihalyi (2014b) observed six factors that characterised a flow experience: intense and focused concentration on the present moment; merging of

action and awareness (being fully present in your actions); a loss of reflective self-consciousness (lack of attention to the self); a sense of personal control or agency in the situation; a distorted sense of time passing; experiencing the activity or situation as intrinsically rewarding (Csikszentmihalyi, 1975). The state of flow was the defining space between awareness and enjoyment in which a degree of automaticity was in place, but with a sense of heightened awareness for the present.

In applying this thinking to teaching and learning, those who enter into a state of flow would be totally immersed in what they are doing, and this immersion arises when the challenges of the activity in front of teachers are significant and roughly equal to the knowledge and the skill in completing an activity. For example, when a musician or athlete was believed to have high skill and low arousal, the research suggested high levels of boredom. In comparison a low skill and high arousal, would leave a person frustrated. Similarly, when there is low skill and low challenge, there is minimal state of flow (Csikszentmihalyi, 2014a). The quality of experiences as a function of the relationship between challenges and skills occurs when both variables are high, as demonstrated in Figure 2.1.

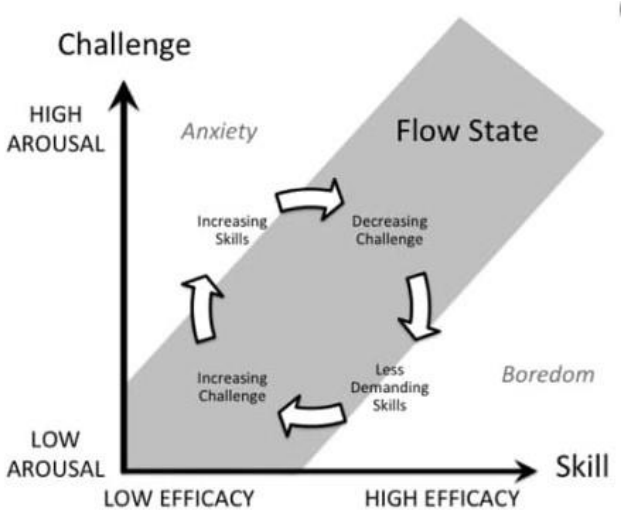


Figure 2. 1 Optimal experience, or flow adapted from Csikszentmihalyi and Csikzentmihaly (1990)

The research of Csikszentmihalyi et al. (2021) can be considered alongside those that have investigated teacher happiness, a state of flow increases positive affect and would reduce the cognitive load associated with tasks that are regularly undertaken, such as the interactions between teachers and students. Studies that found teachers happy in the work of

teaching, (Reeves, Pun, & Chung, 2017) also provided evidence of a balance for teachers in their knowledge and skills and delivery of classroom behaviour management practices (Skaalvik & Skaalvik, 2021; Toropova, Myrberg, & Johansson, 2021). Entering into a state of flow is intrinsically rewarding and an enjoyable experience; flow also links to greater happiness and wellbeing, increased academic (and, subsequently, career) success, and additional positive and healthy relationships (Csikszentmihalyi et al., 2021). The concept of flow, and its foundation in positive psychology was of interest to this study, in that flow could be the aim of teaching and learning, rather than a focus on managing disruption, to inform teacher decision-making in teacher-student interactions. To better understand how this concept of flow could be included in this research, the programs based in positive psychology that are currently used in Queensland state schools follow with the intention to investigate the discourse that has recently influenced classroom behaviour management programs.

2.3.3 Positive Behaviour for Learning

Positive psychology lends itself to improvements in the workplace with studies from the field having found that: positive emotions boost job performance (O'Connor & Cameron, 2017); positive emotions in the workplace are contagious, which means one positive person, or team, can have a ripple effect that extends through the entire organisation (Seligman, 2019). Small, simple actions can have a big impact on our happiness, meaning that it doesn't take much to encourage positive behaviours of those within workplace to have the workplace become a happier and more positive place (Kjerulf, 2007). One of the benefits of practicing a positive psychological outlook includes feelings of happiness through experiencing positive emotions. This positive mindset increases the chance of success (Lyubomirsky, King, & Diener, 2005). The question then lies in understanding how positive emotions in the workplace of teaching and learning are achieved and understanding how teacher decision are influenced that impact these workplaces?

The intentions behind positive educational models align with the insights of positive psychology and the intention to create positive learning environment through rewards systems, clarity of expectations and the interactions between those who work within them. This train of research suggested that happier and more positive working environments will lead to better work performance by employees. When applied to a teaching and learning setting, it would be reasonable to assume that positive classrooms will influence both the

happiness and success of both its teachers and learners. Expanding on the concept of positive psychology, positive behaviour for learning is similar in that it has a focus on setting clear expectations to benefit productive learning environments. Through a matrix, the expected behaviours of students, are clearly articulated to promote productive learning environments. The Positive Behaviour Support (PBS) framework promotes a matrix of expected student behaviours that reflect a culture of positive learning (Beamish & Bryer, 2019). An extension of this framework is the Positive Behaviour for Learning (PB4L) approach that was developed in New Zealand and implemented to promote positive behaviour and inclusive learning through promoting well-being and achievement for all students (Ministry of Education, 2015; Reveley, 2016).

International studies have examined the associated changes to positive student behaviour after the implementation of PBS and PB4L programs (Broskey, 2017; Bryer & Beamish, 2019; Kleeberg, Paal, & Hintz). Success was judged through evidence in reduced referrals to the office for disruptive student behaviours by classroom teachers (Maxwell, 2017) and records of improved student academic achievement (Sugai & Horner, 2006). The findings showed that in almost all of the studies on the early implementation of PBL and PB4L in schools there were reductions in negative student behaviours and increased reports of positive student behaviour (Reveley, 2016).

In contrast to these findings, a literature review by Reveley (2016) reported two specific studies that found no evidence to indicate these programs changed student behaviour. Other reviews have recognised that limited differences were observable between treatment and control schools (Gage, Sugai, Lewis, & Brzozowy, 2015; Yeung, Barker, Tracey, & Mooney, 2013). These few studies draw attention to the rigour of research around the PBL and PB4L programs and shed light on the possibility that both programs were designed to focus on the expected behaviour of students rather than on the skills required by teachers to achieve the desired behaviours. In both programs, the expected student behaviours are well defined at a school level, but the evidence was not conclusive as to how a teacher differentiates their daily decisions to change student behaviours to meet these expectations.

2.3.4 Functional Behaviour Assessment

Another program used within schools to support inclusive learning environments, targeting students with severe and challenging behaviours, is Functional Behaviour Assessment (FBA). Fahmie and Luczynski (2019) outline of FBA as a practical tool devised to support teachers in understanding the function of a student's behaviour through addressing the cause and triggers of complex and challenging behaviours. A functional behaviour assessment is a process for identifying events in the environment that reliably precede (antecedents) and follow (consequences) based on problem behaviour (Iovannone, Anderson, & Scott, 2017). From an FBA approach, the actions required by teachers to encourage and increase positive behaviour change in the student exhibiting complex behaviours is well documented (Leslie, 2018; Mitchell, 2019). The literature surrounding FBA provided a plethora of information on the importance of understanding what triggers and maintains challenging behaviours in students such as seeking attention from adults or peers, the purpose of the behaviour causing classroom disruptions or the desired outcome from the disruption.

The FBA of a student is detailed, and as such has been criticised for its lengthy and complex process, involving numerous personnel. In a series of reviews, commentaries and critiques, Kern, Hilt, and Gresham (2004) raised concerns with the broad applicability of FBA and research available appraising the status and evidence of applications beyond the population of individuals with developmental disabilities. FBA provides support to a single student and advice to teachers on how to respond to specific student behaviours and behaviour triggers to support behavioural change, providing a specific and targeted approach to successful behaviour change for individual students (Mooney & Ryan, 2017). However, similarly to PBL and PB4L programs, this assessment tool does not focus on the skills required by teachers in their decision-making when responding to student behaviours that increase seamless flow of curriculum delivery and create productive teaching and learning environments for all students.

2.3.5 Restorative Practices

Conflicts between students in a school, or classroom setting, are inevitable, and schools must be equipped with strategies to assist students in reducing conflicts and engaging in problem-solving when conflicts occur (Nese et al., 2020). With such a focus on the social and emotional constructs in classroom behaviours the program of Restorative

Practices (RP) is widely used in schools (Hammel, 2018). RP are gaining popularity, particularly as an alternate framework to the over utilisation of traditional disciplinary punishment procedures (Newton & Robinson, 2019). The RP approach is based in the field of the social sciences, with a focus on improving and repairing relationships between people and communities is the program of RP (Nese et al., 2020). The purpose behind RP is building healthy communities, increasing social capital, decreasing antisocial behaviour, repairing harm, and repairing relationships through such restorative approach (Acosta et al., 2019).

Based in a whole-school teaching and learning approach, RP encourages interactions between parties through behaviour that is supportive and respectful. At its core is the principle of placing the onus on individual students to be accountable for their behaviour and to repair any harm caused to others as a result of their actions (Augustine et al., 2018). As with the other approaches discussed, RP has received criticism. Restorative approaches to classroom management are documented as placing unrealistic expectations on teachers to follow the process to de-escalate and discuss the behaviour issue (Stango, 2017). The process used during RP has been well documented to support productive teaching and learning environments, but a concern regarding the time required for each individual student has been acknowledged as an unrealistic expectation on the daily practice of classroom teachers (Wong & Kwan, 2020). A concern cited across the literature in response to RP in schools was the introduction of programs that teachers felt they were not prepared to deliver (Acosta et al., 2019). For example, Goldberg (2020) found in their research that teachers who have not received any training in RP reported that the policy itself was a soft approach, incapable of effective implementation, contradicting the vast body of literature that demonstrates the positive impact of RP in resolving conflict between students.

In the review of three programs used in Queensland state schools, all supported that classroom environments are constantly changing and require teachers to manage student behaviours within the context of the society in which they operate. No one program can meet the complex needs within a school, and the literature reviewed would suggest that the combination of programs and their application after professional learning would benefit from further investigation. As this was not the focus of this study, the gap between programs and teacher skills on the ground was the point of interest in developing teacher knowledge and skills for classroom behaviour management. The context of the classroom is a dynamic environment that exists as part of a complex ecological grouping where

students and teachers interact (Sullivan, Johnson, Conway, Owens, & Taddeo, 2014), and these interactions are influenced by teachers and the decisions teachers make in response to curriculum and behaviour needs of students.

2.4 Impact of student behaviour

To understand the impact of student behaviour, it is essential to define what that behaviour is. Defining student behaviour is difficult for several reasons, one being that individual teacher perceptions about the nature of student behaviours vary significantly. When reporting or discussing a student behaviour, teachers are not always speaking about the same thing, as similar student behaviours are perceived differently amongst different teachers. As teacher perceptions vary in their interpretation of what student behaviours are (Brouwers & Tomic, 1999; Chilcott & Shanahan, 2013; Skiba, 2014; Stahnke & Blömeke, 2021), it is important to recognise that in common definition when discussing student behaviours will support teachers in managing classroom behaviours (Nash, Schlösser, & Scarr, 2016). These differing perceptions are formed through teachers' prior experiences, knowledge, and their beliefs in how they can manage student behaviours, understandably leading to a vast array of definitions for student behaviour when reviewing the literature on this topic.

Further complicating the attainment of a common definition is the multitude of expressions used to refer to students' behaviour in the literature. Examples of such terminology included: disruptive, inappropriate, disrespectful, and unproductive to describe behaviours that interrupt teacher instruction. For this study any student behaviour that interrupts the flow of learning is referred to as unproductive behaviour, the term disruption is occasionally used throughout the study to reflect the literature or origin with the intention of representing unproductive behaviours.

Student behaviours in the classroom can be divided into two categories, unproductive and productive. This dichotomy in classroom conversations is influenced directly by the interactions that occur between a teacher and their students. During curriculum delivery, student behaviours can range from those that are interested and engaged in the learning to behaviours that are uninterested or interrupting the learning of self and others. Across a myriad of definitions, student behaviour was consistently referred to as the belief that compatible learning environments are characterised by high rates of positive student behaviours (Chaplain, 2016; Zimmerman & Kitsantas, 2014), polarising productive and

unproductive behaviours based on the access to the learning. When defining student behaviour through the lens of psychology, behaviour consists of a person's external reactions to the surrounding environment, and the way a person behaves or functions in a situation (Giallo & Little, 2003).

For the purpose of this research, behaviour was defined as the response of an individual or group to a stimulus (Overland, Barber, & Sackville-Ford, 2020). That stimulus being an action, person, or something other than the person themself, in the environment. The response to the stimulus is typically an action and can therefore be understood as the behaviour in question. Student behaviour then is defined as the response by a student to the stimulus of classroom environment, both human and physical. Both productive and unproductive student behaviours engage students and teachers in classroom conversations, with potential for positive or negative outcomes.

2.4.1 Productive student behaviours

Positive student behaviour influences student achievement suggesting that students with positive behaviours are more likely to value school and exhibit higher performance in learning activities (Pintrich & DeGroot, 1990). In comparison, negative student behaviours are linked to lower student achievement and studies show the potential they have to negatively impact the participation of other students in the learning (Närhi, Kiiski, Peitso, & Savolainen, 2014). Learning is seen to be most conducive when teaching conditions are favourable (Geršicová, 2016) and the work of teaching is seen to be successful through productive student behaviours to the learning.

The very nature of teaching reflects the desired goal to be able to deliver the curriculum in a safe, supportive learning environment (Department of Education and Training, 2015). This learning environment and the positive nature of it will be influenced by the behaviour of students and the teacher. Positive student behaviours reflect an interest in learning, engagement and minimal disruption to others during the learning (Egeberg, McConney, & Price, 2016). These behaviours are desired by teachers in the classroom and are influenced by the decisions made by teachers to achieve this required learning environment.

Through their classroom behaviour management, teachers seek to increase positive student behaviours as they are behaviours that lend themselves to engagement and active learning (Archer & Hughes, 2010). The relationship between engagement and positive classroom behaviours throughout the literature is well documented (Banks, 2014; Shernoff,

Csikszentmihalyi, Schneider, & Shernoff, 2014). What is not so easily located in the published works are the strategies for teachers to use to achieve an increase in the required positive student behaviours in their classrooms. Positive student behaviours are essential to learning with the literature reporting strong correlations between positive behaviours and increased self-esteem of students (Demirdag, 2015), increased classroom engagement (Addimando, 2019), higher achievement of students, and increased retention of students (Johnson & Johnson, 2008). To attain a productive teaching and learning environment, is the goal for teachers through their teaching practices.

Finn, Folger, and Cox (1991) saw that students who developed a sense of positive identification with their school were more likely to experience greater educational gains, because of active participation in the classroom activities. It follows then, that positive student behaviours are more likely to increase the time available for instruction (Coles, Owens, Serrano, Slavec, & Evans, 2015) and in doing so provide teachers with the time and space to do the work of teaching, uninterrupted. The behaviour of students when positive, builds a productive teaching and learning environment, and conditions that are conducive to the act of learning. The effective management of unproductive student behaviour is considered to be the responsibility of the teacher (Finch, Peacock, Lazdowski, & Hwang, 2015), alongside this expectation, is the requirement of teachers to effectively deliver the provision of learning to all students (Malinen & Savolainen, 2016).

Scott (2016) stated that the key to effective classroom behaviour management starts with instruction, with the importance of instruction evidenced to increase student engagement throughout the learning process (Archer & Hughes, 2011). To increase student engagement, teachers are required to focus on learning activities (Showers & Joyce, 2002), and the association between achievement and instruction time depends upon the quality of instruction and the classroom environment (Rivkin & Schiman, 2015). Rivkin and Schiman (2015), and Rogers (2015), emphasised the importance of positive classroom behaviours to produce environments that will enhance instruction. The opposite then would be found in classrooms with persistent unproductive student behaviours.

2.4.2 Unproductive student behaviours

What was not conclusive in the literature was one common definition of unproductive behaviour. In contrast to productive student behaviour, definitions of unproductive behaviour were found to accommodate the study to which they pertained. Expressions of

frustration, anger, and contempt by teachers were linked to negative classroom environments that potentially resulted in reduced satisfaction with work (Ceschi, Demerouti, Sartori, & Weller, 2017). From the starting point of repeated low-level disruption, unproductive student behaviours can have a serious impact on teachers. In reviewing the literature, definitions of behaviour differed dependant on the area of expertise of student academic achievement (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2008), teacher burnout (Brouwers & Tomic, 2000), student and teacher wellbeing and teacher emotional states (Becker, Keller, Goetz, Frenzel, & Taxer, 2015).

Interestingly, incongruence existed between the perception of teachers and students to the interpretation of what constitutes disruption to learning spaces in the literature. A study across 65 countries of 15-year-old students conducted by OECD (2013) reported that two out of three students report that there is never or rarely noise in the classroom. In comparison teachers reported noise as occurring regularly and to a degree that disrupted other learning. Such a difference in perceptions between the adults and students within the same teaching space will influence the behaviours and decision-making of teachers when managing the classroom behaviours.

These considerations, when defining unproductive student behaviour, are influenced by a teacher's belief in how they can manage student behaviours (Pierce & Cheney, 2013; Porter, 2007; Sheryl, Stephanie, Herrenkohl, Toumbourou, & Catalano, 2014). When students are unproductive but follow corrective instructions, teachers feel in control of the learning environment (Bitsadze & Japaridze, 2016). For some teachers, reports of refusal of students to follow corrective instructions result in a sense of futility and lost control over the classroom environment by the teacher (Álvarez, Álvarez, Castro Pañeda, Campo Mon, & González, 2016). Unproductive behaviour disrupts the learning of self and others in differing degrees and potentially influences how a teacher perceives their ability to control the learning space.

Unproductive behaviour was considered by teachers to include student behaviours that were motivated by attitudes not legitimised by the teacher and as behaviours that were interrupting the normal teaching process (Silva & Neves, 2007). In summary, students were off task or conducting themselves in a manner that was not based on the expectations set by the teacher. From across the literature, unproductive student behaviours include: interruption to curriculum time; disruptive student actions; students positively interacting with each other and the teacher; differences in engagement and interest by students of curriculum delivery

and opportunities for teacher interactions. Figure 2.2 (Melisha McCarty 2020) is a cartoon depiction of such classroom behaviours.

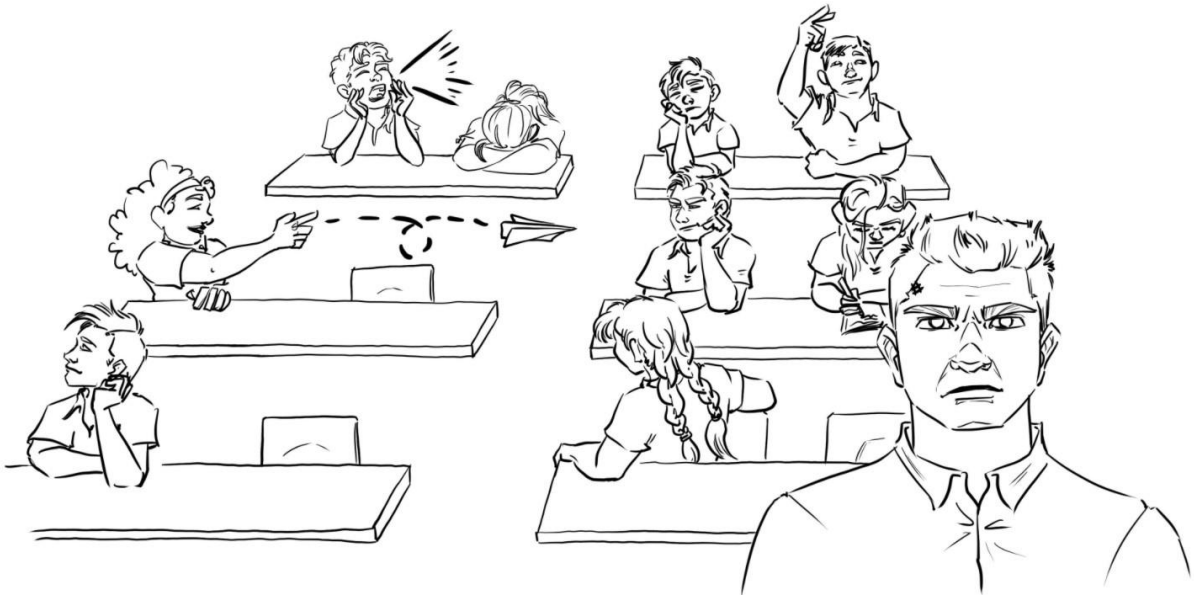


Figure 2. 2 Image of student behaviours

The impact of unproductive student behaviour on the learning environment of self and others is a recurring theme. For this thesis, unproductive student behaviour is defined as any student activity that is not compatible with the desired learning conditions set by the teacher (Stoughton, 2007; Thomas, Becker, & Armstrong, 1968). In contrast, productive behaviours are those that add to the curriculum delivery and learning environment of self and others, leaving unproductive student behaviours as those that detract from it (Wardman, 2016).

Unproductive student behaviour takes time away from curriculum delivery and has been shown to be related to negative teacher feelings. Chen (2016) highlighted, in an international review of the literature on teacher stress, that classrooms remain complex settings and that unproductive student behaviour remains a significant contributor to teacher stress. The study referred to teachers' constant requirement to manage their emotions competently to successfully deliver teaching and smoothly interact with their students and other stakeholders.

Unproductive student behaviour is a complex issue that requires great emotional and intellectual attention from teachers (Beuchert, Humlum, Nielsen, & Smith, 2018). Teacher-student interactions influence teacher perception of their teaching ability and this then impacts on the classroom environment, where unproductive student behaviours are not only a major source for work-related stress among teachers but a risk factor for student academic achievement (Närhi et al., 2014).

Other studies supported that outside of the perception of teachers and students, low-level disruptive behaviour and disengaged student behaviours occur frequently, and teachers find the repetitive nature of these low-level behaviours difficult to manage with increased loss of curriculum time (Sullivan et al., 2014). It is recognised that student disruptions contribute to teacher stress through the time taken away from the teachers' primary goal of teaching. Unproductive student behaviours in the classroom are a complex, relational and interactive phenomena (Silva & Neves, 2007).

A detailed analysis undertaken of 72 research studies published between 1980 and 1993 identified 24 common potential stressors for teachers (Forlin, 2001). Of those that were classroom-based, the most pervasive of potential stressors to teaching were those involving negative student interactions. Emmer and Stough (2001) summarised that the research to date, addressed causes and correlated teacher anxiety, with the discipline of students seen as a serious concern by teachers. The student behaviours causing concern for teachers were those that are unproductive in nature.

The impact of these unproductive student behaviours to teacher well-being and job satisfaction was readily available (Toropova et al., 2021). The educational sector as a profession must take seriously the state of their employees and the ability to retain staff for educational success and stability, it would be fair to surmise that student behaviour plays a key role in teachers' satisfaction in the work that they do. Dissatisfied teachers will leave the profession. The next section discusses the cost of teacher attrition to schools and communities.

2.4.3 Cost of teacher attrition

Teaching is a profession that affects all Australians. Administrators each year are tasked with filling teaching vacancies as teacher shortages increase in Australia (O'Brien, Goddard, & Keeffe, 2008; Weldon, 2018) and internationally (Lindqvist, Nordänger, & Carlsson, 2014; Yinon & Orland-Barak, 2017). Australia's population is surging and this growth will further impact schools with more school students, an estimated 650,000 more predicted by 2026 (Goss, 2020). As governments and agencies work strategically and systemically to increase teachers in the workforce, the research reflects growing trends in teacher attrition (Australian Institute of Teaching and School Leadership, 2016; Weldon, 2018). With reports in Australia of up to 50% of teachers leaving the profession in their first five years of service (Borman & Dowling, 2017), teacher attrition is a matter of

national and international urgency. Teacher attrition is not only a concern for Australians, but literature was easily sourced that reflected similar attrition rates internationally (den Brok, Wubbels, & Van Tartwijk, 2017; Lindqvist et al., 2014; Weldon, 2018). Rumschlag (2017) reported that current teacher attrition costs school districts billions of dollars per year across the United States.

Similar research, by Singh, Rowan, and Allen (2019) reported a looming teacher shortage, particularly for teachers in "specialist areas and in rural and remote schools, with these areas recording alarming rates of teacher attrition" (p.9). Schools in rural and remote Australia have continued to experience difficulty in staffing, both through recruitment and retention of teachers (Burnett & Lampert, 2016). A high turnover in teaching staff creates a strain on school resources in the manner of recruitment, retention, training and induction cycles that repeat with intense regularity (Mason & Matas, 2015). In addition, teacher attrition comes at a high cost both financially (Carver-Thomas & Darling-Hammond, 2017) and socially (Redding & Henry, 2018) to schools, communities and the government. Recent research indicates that the current relatively high rate of teacher attrition is a primary contributor to teacher shortages nationally, accounting for close to 90% of annual teacher demand (Carver-Thomas & Darling-Hammond, 2019).

In cases of teacher attrition, negative emotions were found to impact the teacher themselves, the environment they were teaching in resulting in increased lack of trust and lowered staff morale (Acton & Glasgow, 2015). Such negative attitudes to work were commonly linked to a lowered sense of self (Schwab, 2019), shown through signs of teacher stress, frustration, (Hamama, Ronen, Shachar, & Rosenbaum, 2013), negative attitudes reported to teaching, and a sense of failure, all reducing a teacher's belief in their ability to do the job (Bentea, 2015). Low confidence has a high correlation with teacher burnout and teacher attrition (Kutsyuruba et al., 2015).

Teacher attrition carries with it several interrelated concerns that impact educational outcomes of students. High attrition rates have been shown to have negative effects for classroom environment, teaching continuity and student achievement (Kearney, 2014). There are also economic costs associated with high teacher attrition rates including the cost of recruiting, training and developing new and beginning teachers (Boivie, 2017; Watlington, Shockley, Guglielmino, & Felsher, 2010). Additional, non-economic costs to schools and communities can be found including wellbeing of students and staff (Redding & Henry, 2018). Research by Carver-Thomas and Darling-Hammond (2019) concluded

that achievement declined when students were taught by a "succession of new teachers" (p.16).

Understanding the phenomenon of teaching and the influences on teacher attrition will raise awareness about what teachers need to do to increase the likelihood of them remaining in the profession. Such an understanding provides insight into potentially providing evidence to influence policy and practice in order to mitigate against the possibility of losing high proportions of teachers in the coming years. There are approximately 270,000 teachers working with almost four million students in 9,500 schools across Australia (Australian Curriculum Assessment Reporting Authority, 2019). Teachers play a vital role in every community, and they have far-reaching influence; their work undoubtedly shapes the future of Australia and is extremely important.

The cost of this teacher turnover was evident throughout the literature with examples of the disrupted continuity of instructional programs to students (Weare, 2015). This disruption to learning only adds to the stress and anxiety of teachers trying to achieve successful outcomes for students. In addition, the strain on the human resources who remain at schools required to cover the absences of staff, along with the need to provide ongoing mentoring and support to the new teachers through induction into the profession were also cited as concerns (Shanks et al., 2020).

Articles reviewed in chapter two were found to include a common element to teacher attrition rates, citing student behaviour as a key reason for teachers leaving their career (De Nobile, El Baba, & London, 2016; den Brok et al., 2017) and the pressure felt by teachers to maintain a safe supportive learning environment for all through management of student behaviours (Egeberg et al., 2016). When the skills to do a job are unknown, or teachers find they have low confidence in meeting the expectations to do the work, in any job, then the likelihood of staff remaining in that job is reduced (Akkaya & Akyol, 2016). The ways in which teachers are inducted to the teaching profession and the provision of teacher education and training could all potentially make the difference to teacher success. It is what teachers know, do, and care about which is very powerful in this learning equation (Hattie, 2003).

2.5 Chapter summary

This review of the literature situates teachers as the most significant contributors to the establishment of classroom environments. The decisions that teachers make influence

classroom environments, and in due course, their wellbeing with positive and negative affect associated with prior experiences influencing the likelihood of future decisions in similar situations. Classroom environments have an impact on the affective state of both teachers and students; interrupted classroom environments impact negatively on student learning, increasing the possible negative affect of teachers through feelings of futility and frustration at the interrupted flow to the curriculum delivery.

When the management of a classroom environment is negatively impacted through unproductive student behaviours interfering with the process of teaching and learning, it results in teachers having perceived levels of failure with the impact on other students from those disrupting the learning space, with the impact of a disruptive class environment as a growing concern. The interactions between teacher and students create the classroom environments in which teaching, and learning occur.

Due to the complexity of the classroom and the nature of the system in which teaching occurs, to drill down and understand the influences on teacher decision-making and their impact on classroom environments, for the purpose of this study the focus was limited to reviewing the literature that reflected interactions within the classroom and not the other external pressures included in reasons for teacher attrition based on external variables of the system, school, or community. To understand the necessary elements that influence teaching practices a conceptual framework will be discussed in the following chapter.

CHAPTER 3 CONCEPTUAL FRAMEWORK

Research is formalized curiosity. It is poking and prying with a purpose. Zora Neale Hurston (1952)

A conceptual framework identifies and then clarifies what is known through a visual representation that combines the central aspects of a study. Its aim is to connect these central thoughts with the various other aspects that influenced the research (Ravitch & Riggan, 2016). In developing the conceptual framework for this study, chapter one provided the background in which this study was situated leading into the literature in chapter two from which the central aspects of this study evolved. This chapter presents a conceptual framework that scaffolds the understanding of the intersection between teaching, decision-making and professional learning programs. The conceptual framework was founded on the research utilised to investigate the central research question: How does teacher decision-making impact on the development of productive teaching and learning environments in practice?

3.1 Overview of the chapter

In this chapter the conceptual framework is developed beginning with the development of the conceptual framework of the study in section 3.1; an overview of elements that influence decision-making and the different theories and models used to study decision-making in Section 3.3 and the theories of decision-making are reviewed in Section 3.4. Teaching practices are examined in section 3.5 that lead into a detailed examination of the use of professional learning programs to support teaching practices in Section 3.6, with the chapter summary in section 3.7.

The conceptual framework includes the processes of decision-making in relation to the influence of cognitive load and affect on teaching practices, and the theoretical perspectives of decision-making. Teaching practices and the management of student behaviours, based on teacher-student interactions, are presented to explore the requirements for teachers to have the knowledge and skills to develop positive learning cultures. This discussion is followed by an introduction to the complex nature of decision-making and how teacher decisions influence classroom environments through presenting a conceptual framework that structures the chapter.

3.2 Conceptual framework

The key concepts throughout the literature that impact on classrooms, were found to be in the areas of teaching practices, decision-making and professional learning programs, as such these formed the foundation of the conceptual framework for this study. Each of these areas has an impact upon another. For example, decision-making has a direct relationship with teaching practices, teaching practices are developed through the participation in professional learning experiences and through professional learning experiences teachers gain the skills and knowledge to adjust their decision-making to impact on their teaching practices. The cyclical nature of decision-making, teaching practices and professional learning programs in teaching are represented in Figure 3.1.

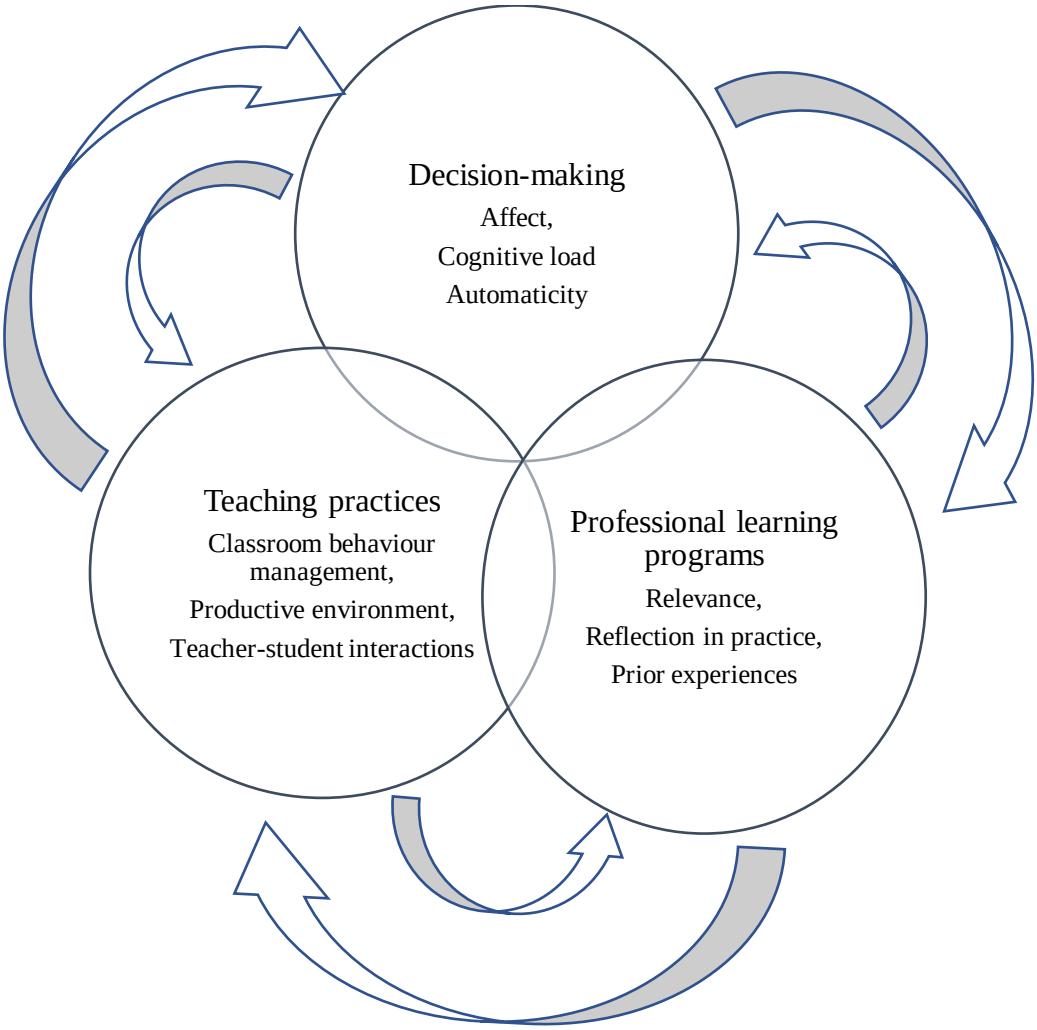


Figure 3.1. Conceptual framework of potential influences on teacher decision-making

The conceptual framework reflects the field of decision-making and the relationship it has with teaching practices and professional learning programs. All three concepts are interrelated and therefore relevant in this research to develop and understand how to support teachers learning, and the knowledge required to support their teaching practices. Along with identifying how to best design programs to develop the skills for positive change in teaching practice. To understand these relationships each will be briefly outlined with a detailed review of the literature provided in the relevant following sections.

3.2.1 The concept of decision-making

Understanding the impact of decision-making in teaching practices is an essential component for teacher professional learning programs through the impact of experience and knowledge, and how these impact on the thinking required by teachers in the moment of decision-making (Fisher, Chengalur-Smith, & Ballou, 2003; Neville, 2020). To consider all information in every decision made is almost impossible. A process of elimination occurs that can be crucial to a positive or negative outcome in making the final decision (Saaty, 2008). The chance that all information continues to be relevant can be overwhelming, as can the presence of all necessary information to make the best decision at the time. The influence that others have on the decision-making process should not be overlooked (Nemeth, Connell, Rogers, & Brown, 2001).

3.2.2 The concept of teaching practices

Teaching practices are the second area important to this study, because they directly impact on, and are directly impacted by, the decision-making within a classroom. The relationship between teaching practices and decision-making creates the teaching and learning environment in which behaviours occur, including the physical environment, the information available at the time of making the decision, and the people involved (Vlaev, 2018). The school system that informs the expected outcomes, the classroom behaviour management procedures in place, and the interactions between teachers and students, within the classroom, will determine the choices considered in the process of deciding, reflecting our beliefs, and teaching practices (Gabrys-Barker, 2018). The information used in making the decision is influenced by the availability of information and the ability of the decision-maker

to consider all available options, again, these will be influenced by the beliefs a teacher has of their teaching practices.

When decisions need to be made, the pressure from others for conformity or challenge to current views may influence the choices and information used in the process of deciding. The roles that people fill within an organisation, or a chain of decision-making, may impact on the choices considered and those discarded in the process, influencing the outcome. Each of these considerations consciously, or more often, unconsciously, will impact on the moment that it takes for a person to decide. Decisions occur within the framework of teaching identity and this informs their teaching practices, and can be developed through the inclusion of professional learning programs in a teaching career (Schutz & Lee, 2014). The development of teaching capabilities is well documented as being achievable through targeted professional learning programs attended in a teachers' career (Australian Institute for Teaching and School Leadership, 2018).

3.2.3 The concept of professional learning programs

Professional learning programs are the third area of consideration for this study as they provide teachers with access to new knowledge and skills across their career (Avidov-Ungar, 2016). The relevance of professional learning programs determines the likelihood of interest by teachers in the new materials and their commitment to the transference of those skills back into their teaching practices. The relevance of a professional learning program will therefore determine the impact programs have on teaching practice.

Beyond the perceptions teachers have of a professional learning program, a possible larger challenge to the successful transference of new skills to the classroom is the prior knowledge and experiences of the teacher themselves that will influence the decision-making process (Fisher et al., 2003). If professional learning programs cannot provide relevance (Balsemão Oss, 2018), and the ability to transition teachers from well-developed habits of practice to using the new information in their practice (Pinto, 2020), then changes in classrooms will be minimal.

3.3 Decision-making

The process of decision-making by its very nature, impacts the teaching practices of an individual teacher. For this study, decision-making is defined as the assessment of all known

and available choices and the response whereby humans apply action after deliberation of a situation. In addition, decision-making is the calculation of risk (Slovic, Peters, Finucane, & MacGregor, 2005). Scott and Bruce (1995) concur with this definition with the inclusion of the terms, habitual and learned response patterns, to describe how an individual decides either rationally or more intuitively when faced with a new problem or situation.

Within the changes to decision-making theories over time, earlier definitions that relied on the outcome only and not the habitual or personal influences of the process were challenged (Batta & Stephens, 2019). In consideration of research on teaching, the learned behaviours of teachers and the inclusion of their prior experiences in classroom practices, that reflected habits based on these experiences, were essential when defining the term decision-making. Each decision, then, will be the culmination of the deliberation over known choices and the risk associated with each individual option. Influenced by affect and cognitive load, the ways in which teachers make classroom decisions is an essential aspect of teacher development programs, along with the development of automaticity in which choices are considered in the decision-making process. Affect, cognitive load and automaticity will each be defined in detail in the following sections.

3.3.1 Affect in decision-making

Decisions are influenced by the affect of the decision-maker (Blanchette & Richards, 2010; Lerner, Li, Valdesolo, & Kassam, 2015). *Affect* is defined as an immediately expressed and observed emotion, a feeling state becomes an affect when it is observable, for example, as overall demeanour or tone and modulation of voice (Neville, 2020). The shift in modulation and tone of voice can be found to represent affect through the language used by the person under observation. Newell, Newman, Wellman & Gardner (2018) demonstrated the use of language to establish the state of a person's affect with an example of research using patterns from transcribed interviews to find associations between concepts under research being found in keywords in context (KWIC). This concept was developed by Luhn (1957) to establish ways to categorise titles in libraries and has evolved to be used in multiple qualitative and mixed methods research in more recent years.

KWIC uses the language patterns of participants to establish similarities and differences among the participants' beliefs and thoughts regarding concepts under investigation (Luhn, 1960). Through a lexical search using keywords, themes and patterns can be discovered in the language used around concepts associated with the research. Using KWIC, language

features can provide evidence on the decisions made in real-life situations. For example, common language patterns are found in both states of positive and negative affect. Positive affect is likely to be referred to when participants use words of affirmation, hope and possibility, while negative affect is represented through words of frustration and negative connotations (Duckworth, Quinn, & Seligman, 2009; Ellis, 2016). This was a means to better understand the language patterns of teachers in their classroom environment.

Teachers make decisions every day, but the literature provided limited evidence of the influences inside the classroom on teacher affect and decision-making. The literature presents the implications of burnout as extensive (Schonfeld & Bianchi, 2016), and that this phenomenon for teachers is associated with: negative attitudes towards teaching (Hall, 2012), staff absenteeism (Eickholt & Goodboy, 2017), increased healthcare costs (Maslach & Leiter, 2017), poor job performance (Leung & Lee, 2016) and mental health claims (Borman & Dowling, 2017; Galand, Lecocq, & Philippot, 2007). Negative attitudes to teaching associated with negative affect all contributor to teacher attrition.

Affect takes into consideration the emotional state of the decision-maker and how positive and negative affect may influence interactions between two people and ultimately the outcome of that decision (Blanchette & Richards, 2010). Each teacher applies their own personal perceptions based on prior memories and events that shape possible responses to future situations as they arise (Duncan & Shohamy, 2016). This is amplified by the individual's emotional state, and the needs and goals that a situation presents to the decision-maker (Arias-Bolzmann, Agurto, Chavez, Pantoja, & Pinto, 2018). An example in teaching practices can be found when time is believed to be wasted, negative affect for teachers builds, increasing stress levels (Blanchette & Richards, 2010). Stress and ongoing feelings of negative affect have been associated with negative teacher attitudes to their work and cited as a contribution to teacher attrition (Borman & Dowling, 2017).

Teachers report high levels of stress in their daily work (Herman, Hickmon-Rosa, & Reinke, 2018). Stress is defined as the state of anxiety produced when events and responsibilities exceed one's coping abilities (Clunies-Ross et al., 2008). Stress impacts on the belief a teacher has about their ability to be effective in creating favourable teaching and learning environments, and increases negative self-beliefs (Ingvarson, Meiers, & Beavis, 2005). Teacher reports show feelings of frustration and failure when unproductive student behaviours are high in classrooms and repetitive in nature (Frenzel, Becker-Kurz, Pekrun, & Goetz, 2015). These negative feelings experienced by teachers relate to low

self-efficacy and the belief teachers have in their inability to continue to perform the work at a high level of competence and confidence.

The negative affect of teachers directly related to their attitude to the work they do and the perceptions of their ability to do it (Bentea, 2015). In comparison, Allen, Rowan & Singh (2018) proposed that classrooms with more positive student behaviours are seen to be easier to teach, less threatening, more fulfilling and effective with improved student learning outcomes. Often the cost of disruptive classrooms is the belief by teachers that they have failed to confidently complete the task expected of them, which results in negative affect (Bitsadze & Japaridze, 2016). Teachers who believe they are ineffective in teaching, believe that they do not have adequate emotional resources do the job (Seiz, Voss, & Kunter, 2015).

Classroom complexities mean that negative self-beliefs have various origins, including planning elements (Dorgu, 2016), practicalities for and of teaching (Cheng, 2015), as well as student factors, such as behaviour and motivation for learning. Teacher affect could therefore be seen to potentially influence the decision-making process in teaching practices.

Affect influences the decision maker through the way they use and utilise choices available in the decision-making process. George and Dane (2016) said that in their research, affect, emotion, and decision-making were highly interdependent. Exploring and understanding the nature of these interdependencies will enhance the understanding of choice processes and contribute to an appreciation of the functioning of the human mind. Affect also impacts on the ability of the decision-maker to consider all options as the increase in cognitive load can be associated with increased negative affect. When decision-makers are faced with negative affect and increased cognitive load the outcome can be attached to regret at the less preferred outcome being achieved. Interestingly, affect and emotion as a consequence of decision-making has received limited attention in recent years (Collie & Perry, 2019; George & Dane, 2016). Other influences were found through the literature review, predominately of interest to this research were those associated with working memory and the impact this has on decision-making.

3.3.2 Cognitive load and decision-making

The less working memory available in decision-making the higher the cognitive load (Blackley et al., 2021). Cognitive load has the potential to influence present and future decisions. The cognitive load in decision-making is relevant to this study, as the higher a person's cognitive load, the more likely they are to revert to old habits, which are not

intentionally considerate of the new situations (Blackley et al., 2021). The more choices available in the decision-making process the higher the likelihood that the persons cognitive load will increase and proportionally reduce the working memory of the person making the decision. Furthermore, the risk to make the right decision is socially constructed, and the assessment of each choice and its associated risk is inherently subjective, representing a blend of science and judgment through psychological, social, cultural, and political factors (Smagorinsky, 2007). A choice is rarely a single option presented in response to a set situation. This intersection of choice, situation and context leaves the decision-maker balancing the benefits and risks for each outcome. Balancing between the possibility of choices available and the risks associated with each outcome is time-consuming and emotionally involved work, all of which impacts on the cognitive load of the decision-maker.

An understanding of the cognitive and affective concepts in decision-making is necessary, along with consideration of the importance of social and psychological sciences to understand how these concepts could impact on teaching practices. What was evident throughout the literature reviewed was that the inclusion of heuristics to the decision-making in classroom situations, could lead to a better understanding of real situations and the decision outcomes (Mintzberg, 1989). Heuristics would increase the processing speed of finding a satisfactory solution when making a decision (Hafenbrädl, Waeger, Marewski, & Gigerenzer, 2016) and therefore have more generalisability to real-life situations with multiple competing choices in the stage of deliberation. Heuristics, or a heuristic, is an approach to problem solving that employs a practical method that is not guaranteed to be optimal, perfect, or rational, but is nevertheless sufficient for reaching an immediate, short-term goal or approximation (Batta & Stephens, 2019). In decision-making a similar term, satisficing, is used to describe the same process in decision-making. Whereby a decision is made using methods that reduce consideration of all options, resulting in an outcome that is close enough, and therefore reduces cognitive load and increases positive affect.

In a teaching situation, such a reduction in cognitive load will reduce negative teacher affect and enhance the ability of the decision-maker to consider increased amounts of information, consider the environment, the impact of others, and associate past experiences with the best determinant for a positive outcome in the final decision. The inclusion of heuristics gave a way of understanding the influence of affect of the decision-maker that was related to prior events and the new event to be taken account of in the decision-making process.

Decision-making is, by its very nature, influenced by the risks associated with the choices available (Slovic et al., 2005). All actions and activities have an associated risk to them. In a job, or daily life, decisions are made regularly, and each decision involves an element of risk (Yoe, 2019). Risk is made up of two parts: the probability of something going right or wrong, and the consequences of that outcome (Saisubramanian, 2019). High risk is associated with a likelihood of the increased possibility of a negative outcome with potentially more things able to go wrong. The decision-making involved in classroom behaviour management requires consideration of the associated risks of each situation amidst the complex structure of a classroom environment that includes: a teachers habits in teaching (Coker, Kiefer, & Robinson, 2019), the student behaviours under consideration (Horner, Fireman, & Wang, 2010), and the management of risks to individuals and the organisation (Mullins, 2007), as outlined in policy documents. To make decisions with optimal outcomes, an individual must be able to calculate and manage the risks each choice poses in a very short time frame (Tom, Fox, Trepel, & Poldrack, 2007).

The more choices and the greater the risk, the more thought required. Increased thought leads to increased cognitive load, which will reduce the working memory available to the decision-maker for other tasks. As the risks increase, the potential for heightened states of emotion, particularly negative emotions such as anxiety, concern and fear of incorrect decision, lead to negative affect of the decision-maker. Each decision comes from within a multitude of choices, based on how a situation is judged and how the decision-maker assesses the risk.

Risk is a part of every classroom decision (Yoe, 2019) and for many daily classroom decisions, risks could be considered to be of little significance. For example, teachers make decisions about: seating plans in the classroom; where books are stored and how they are accessed; the order in which students enter the classroom; and who answers which questions. Each of these decisions may impact different students in different ways but could be considered to have minimal risks associated with them in comparison to acts of physical danger such as skydiving or firefighting. However, each of these risks could potentially change the environment for teaching and learning and provide the impetus for escalation of minor behaviours to situations of higher risk (Nash et al., 2016). The shift in these behaviours that have escalated can be seen to be triggered, at some point, by the decisions a teacher has made in managing the original behaviour, resulting in teachers finding that their habitual responses that have worked previously in earlier situations, or even years of teaching, may no longer effective in managing a situation (Wilkinson, 2019). The number of

everyday classroom decisions a teacher makes increases the potential risk, with multiple decisions leading to potential positive or negative outcome. As such, the complex nature of the classrooms lies within the human interactions that occur within it.

Teachers have the constant task of measuring expectations and delivering outcomes based on the individual differences and needs of multiple students in any given space, at any given time. These risks are determined through judgements about their benefits or costs to the outcome. Judgement in the context of decision-making is defined as the ability to decide, the thought processes used to make a decision, and the outcome that comes from the exercising of judgement (Wray, 2017). Cooksey (1999) defined decision-making as involving a "specific choice and with an action or implementation aspect to it" (p.114). To make such decisions, judgement occurs based on the options or the choices available in that situation. Before a decision is made the decision-maker will apply judgement to the choices available as being liked or disliked; good or bad; strong or weak. While the judgement does not necessarily have an action or implementation aspect to it, it is influenced by prior experiences and habits of practice (Blanchette & Richards, 2010).

Furthermore, psychological, and social factors influence teachers' decision-making as it occurs in a context that has available multiple options, with the need to balance benefit and risks for each option. Teachers balance potential risks of competing choices, before enacting everyday classroom practices. If risks in a situation are viewed one way, then certain choices will be preferred, while in the same situation if the same risk is defined differently, perhaps incorporating an individual's characteristics and other contextual factors, prioritising of choices may change and the decision is altered. Teachers make judgements about situations and then based on these judgements to apply their knowledge to the choices available to make the decision (Wray, 2017).

An example of the difference between judgement and decision-making in a school context, is evident when teachers make a judgment about arguments students are involved in as being serious or not serious. In such an instance, one teacher may judge a student's explanation of the incident as true and a minor infringement of the behaviour policy, deciding to take no further disciplinary action, while a second teacher may judge the same student's explanation as untrue or as a repeated behaviour showing disrespect. The second teacher may apply further disciplinary actions including referral to an administration member, contacting the student's parents, or giving an out of a class consequence.

Due to judgement of a situation, the same situation may impact on those involved differently, depending on the judgements and the choices used to inform the decision

outcome. As discussed earlier in the conceptualisation of this research model, judgments and decisions are reported to be influenced by four interrelated elements: the context of the decision (environment); the decision-maker (person); others affected by the decision (other people) and data (information) used to make the judgment or final decision, as shown in Figure 3.2.

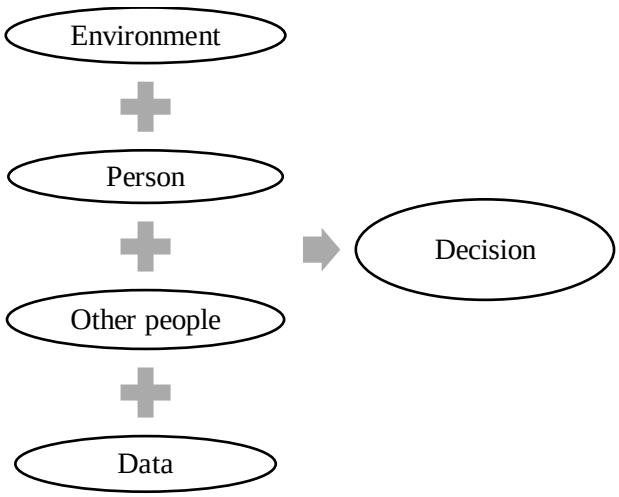


Figure 3.2. Influences on judgement and decision adapted from Cooksey (1996)

Judgements will inform the perceptions of the decision-maker in assessing risks associated with the goals, the choices, and the evaluations of those choices. Accordingly, the representation of a decision (goals, antecedent conditions), behavioural alternatives (routines, other alternatives), evaluations (risks associated with cognitive representations of goodness or badness), and beliefs influence the decision that will be made (Cooksey, 2000). The links among these elements, representing the learned responses of an individual, including their routines or habits, will impact on the decision-making process.

Routines can reduce the working memory needed when deciding, through the reduced cognitive load and reducing negative affect in the process of eliminating or retaining choices. Both will influence the formation of a memory of that event with associations of judgement that are referred to by the decision-maker for future events. It is then relevant to this study to consider the influence of cognitive load and affect on decision-making through association with prior experiences. Teacher decision-making is influenced by cognitive load and affect which in turn influences the development of habits of practice and the degree of automaticity when considering choices and actions in classroom behaviour management.

3.3.3 Automaticity and habits

Routines play an important role in decision-making (Betsch, 2014), forming habits that are repeated or reduced depending on how it makes the person feel when making the decision. This repeated behavioural response is increased through the concept of automaticity. The term *habit* is used here, to refer to a learned behavioural solution, a response, that comes to mind almost automatically when a decision problem is encountered (Batta & Stephens, 2019). Such decisions are based on the goals or outcomes wanted to be achieved and the context. Ceceli and Tricomi (2018) stated that goals and context provide the conditions in which the choices are viewed, or the decision is made while the routine is the behaviour itself. Routine behaviours differ in strength depending on how they are associated with the decision problem in our memory (Avni-Babad & Ritov, 2003).

Routines that are frequently repeated become automated habits and habits are more likely to reduce cognitive load in the decision-making process (Kurz, Gardner, Verplanken, & Abraham, 2015), and reduce the period of deliberation and response time (Ratcliff, Voskuilen, & McKoon, 2018). While this benefits the outcome for decisions to be made in haste, the cost is that not all new information may be considered as a part of the expedited process in decision-making. This can present an issue for the person making the decision as haste may not always equal best practice.

The context in which a decision is made is important and relates to the habits and routines regarding that decision. The connections between what we see, perceive, feel and then choose to do will influence the experiences we draw upon to decide the outcome and ultimately impact on the decision made (Blanchette & Richards, 2010). Research by Callender, Franco-Watkins, and Roberts (2016) indicated that prior behavioural knowledge systemically impacts on decision-making. Relationships between choices, affect, context, and decision-making assist in understanding theories of decision-making and their application to teacher professional development.

In summary, the conceptual framework in Figure 3.2, is based on the interdependent concepts of affect, cognitive in relation to decision-making. Affect is to be distinguished from mood, which refers to a pervasive and sustained emotion, while cognitive load refers to the available working memory of the decision-maker (Deck & Jahedi, 2015). Interestingly, classroom environment can be measured through the affect of those within it. The study of language can be used to verify and assess the tone and the feel of an environment (Sun, Schwartz, Son, Kern, & Vazire, 2020). When faced with a new or unfamiliar task, working

memory increases and this potentially impacts the way choices are viewed in the decision-making process (Murray, Jaramillo, & Wang, 2017). The experiences of an individual will inevitably influence the decisions made in future events along with how those experiences relate to the ability to consider new information or to revert to habitual processes in making the decision, these habits are based on increased automaticity. Automaticity is the development of prior experience that informs future responses with increased speed in considering and including information when considering choices in the decision-making process. This framework demonstrates the complex nature of decision-making and the need to look beyond the early rational theories of decision-making, to consider the emotional and cognitive influences on the process of decision-making in teaching practices. The next section compares the theories of decision-making and the relevance of rational and non-rational theories to teaching practices.

3.4 Decision-making theories

Many areas of human knowledge have extensively researched decision-making theories. The literature review has shown that choice and behaviour represent the core characteristics of decision-making phenomena and involve the processes of thinking and reacting (Betsch, Plessner, Schwieren, & Gütig, 2001; George & Dane, 2016; Gigerenzer & Gaissmaier, 2015). Descriptive and normative theories propose distinct assumptions to explain the decision-making process (Gigerenzer & Gaissmaier, 2015). Descriptive, psychological decision theory focuses on how individuals decide, whereas normative, rational decision theory shows how decision-makers should decide (Shaban, 2015). Understanding the differences between rational and non-rational theories situates the need to explore the eclectic nature of teacher decision-making within classroom practices.

3.4.1 Development of decision-making theories

The evidence of research into decision-making can be traced to roots in early Chinese divination and Lao-tzu principles of *unwilful,* whereby events are left alone to take their natural course (Huppes-Cluysenaer, 2018). Decision-making was left to oracles and people held little belief in their input into the decision-making process. It was something that happened to them, not by them (Jagtap, 2019).

Decision-making in politics can be traced to Athens where voting was evident and by the fourth century, Aristotle and Plato held contradictory views with Plato leaving decision-making to the soul and Aristotle recorded as stating decision-making required a sense of deductive reasoning (Hansen, 2010). This view on decision-making is important in forming an understanding of decision-making and comprehend the definitive shift over the centuries that lead us to today's theorists and the contrasting views on decision-making and the assessment of risks and choices in that process. Carl Friedrich Gauss brought his geodesic and astronomical research to bear on the bell curve of normal distribution (Gauss, 1874). Then Francis Galton came up with the concept of regression to the mean while studying generations of sweet peas to which he later applied these principles to people, observing that few of the sons, and fewer of the grandsons, of eminent men were themselves eminent (Shaban, 2015).

Following these historical beginnings, a surfeit of terms have emerged that have situated and informed research in decision-making within only a few centuries including: the bell curve (Read, 2016); regression towards the mean in the 19th century, (Gorroochurn, 2016) and the inclusion of risk in decision-making (Knight, 2012). Each of these theories was designed to interpret and understand the outcomes of decisions made in the arenas of politics, business, and economics.

Earlier theorists (Beach, 1993; Goldstein & Hogarth, 1997; Kahneman, 2003) described decision-making as a linear and structured process with minor consideration for emotional influences in the process. As stated, rational models of research occurred predominantly in the area of probability (Shang & You, 2018), in basically dichotomous situations with yes or no responses. A classroom and the complexity in which teaching, and learning occurs is far from this linear frame of thinking.

The inclusion of psychology into the field of decision-making was evidenced as early as the 1900s when it was proposed that the unconscious plays a role in people's actions and that decisions leading to actions are influenced by causes hidden in the mind (Edwards, 1954). This period in history saw the emergence of decision-making in the fields of sociology, anthropology and biology with the investigation of social groupings and cooperative constructs that influence the decision of individuals made within groups (Gigerenzer & Gaissmaier, 2015). This shift was slow but significant, as it began to question the rational models of decision-making and investigated the social settings where decisions were made.

Herbert Simon (1991) bluntly rejected classical decision-making theories and introduced the concept of bounded rationality. Bounded rationality is the idea that in decision-making, the rationality of individuals is limited by the information they have, the cognitive limitations of their minds and the finite amount of time available to decide (Lorkowski & Kreinovich, 2018). While this theory included the idea of choice and assessment of risk, research continued to be conducted to better understand organisational and economic behaviours, of success, or failure.

Decision-making was first included in the lexicon of public administration by Barnard (1968), replacing earlier descriptors such as resource allocation and policy-making. The beginning, or foundations, of decision-making theories are important to consider as they are based in the constructs of politics, economics and probability, far removed from the constructs that surround contemporary classrooms and teaching (Gigerenzer & Gaissmaier, 2015). Hodgkinson and Starbuck (2008) explained that the job of policymakers is endless, and that there are always resources to be allocated. However, the decision, in the arenas of politics and economics, implies the end of deliberation and the commencement of an action.

Early decision-making theory paved the way for the study of managerial decision-making, including the works of the theorists Harrison and March (1984), Simon (1991) and Mintzberg (1989), who laid the foundation for the study of managerial decision-making. Faced with the imperfect nature of decision-making, theorists have sought ways to achieve, if not optimal outcomes, at least acceptable ones. Gerd Gigerenzer urged researchers to include simple heuristics to decision-making, an approach he calls “fast and frugal” reasoning (Gigerenzer & Gaissmaier, 2015). The literature reviewed on the study of decision-making, consequently, was a palimpsest of intellectual disciplines: mathematics, sociology, psychology, economics, and political science, to name a few (Appelt, Milch, Handgraaf, & Weber, 2011). From the earliest records of theories in decision-making, philosophers pondered what decisions say about humans themselves and about their values; historians dissected the choices leaders made at critical junctures.

In contrast, research into risk and organisational behaviour springboards from a more practical desire: to help managers achieve better outcomes., and while a good decision does not guarantee a good outcome, such pragmatism has shown dividends in the workplace. A growing sophistication with managing risk, a nuanced understanding of human behaviour, and advances in technology that supports, and mimics cognitive processes, have improved decision-making applications in many situations and influenced the theories that surround these applications.

Throughout the 1900s the research field expanded as it became more evident that economics and probability did not hold the answers to all situations, and particularly not those that included greater degrees of uncertainty (Lorkowski & Kreinovich, 2018). The study of decision-making was shifting to include a combination of disciplines including mathematics, sociology, psychology, education, economics, and political science. Early research focused on the ability to have needs met in the most cognitively efficient way, resulting in increased working memory for other associated tasks (Murray et al., 2017). This led to research into the field of satisficing and maximising, fields which have consistently shown that participants who use a model of maximising do so at the expense of positive affect (Jenkins & Nolan, 2010). Satisficing is a decision-making strategy that aims for a satisfactory or adequate result, rather than taking extended time in seeking the optimal solution. Instead of putting maximum exertion toward attaining the ideal outcome, satisficing focuses on pragmatic effort when confronted with tasks (Oh et al., 2016).

A study by Iyengar, Wells, and Schwartz (2006) found that college graduates who described themselves as maximisers secured jobs with 20% higher starting salaries, but reported less satisfaction during and after the job search. One possible consideration for such results is that when you attempt to maximise, it encourages the focus on one feature while neglecting other factors relevant to job fulfillment. Dar-Nimrod, Rawn, Lehman, and Schwartz (2009) agreed but believed too many options when making decisions lead to increased cognitive overload. Maximisers tend to be drawn to more choices, are willing to sacrifice time and energy to glean more extensive assortments and increase their levels of dissatisfaction with the chosen alternative.

In a classroom, evidence of this can be seen when a student is removed from the classroom and sent to buddy class or the office; with a resulting negative affect on the teacher; damaged teacher-student relationship; extra decision-making for lost curriculum time; parental follow up; paperwork; and these examples negatively impacting on the classroom environment. In such situations, it could be assumed that maximising would be most beneficial. Maximising results in an optimal outcome for an event. What the literature supports is that in real-life events such as the example given above, with affect and high unpredictability, a decision that is "close enough, is often good enough" (Parker, De Bruin, & Fischhoff, 2007, p. 342). In classrooms, this means that the multitude of decisions a teacher makes in any given day, alongside the pressures to make the right decision may result in choices that lead to behaviours more reflective of satisficing than maximising.

The process of satisficing, as can be evident through actions such as selective attending of minor behaviours with a focus on many students returning to the curriculum, provide time and space for teachers to do the work of teaching, reducing cognitive load. When the payoff is lessened cognitive load, and higher satisfaction in the overall outcome, teachers may make decisions using such satisficing routines more often. Comparing the benefits and costs of satisficing versus maximising practices, close enough (satisficing) may be better than simply good enough in a classroom environment.

Rational decision-making is the process of breaking a decision into stages and searching for the most logical, optimal choices. In comparison non-rational models are seen to alleviate pressure on the decision-maker through a process of satisficing, whereby decisions are broken into increments and rather than searching for an optimal outcome, an option is chosen if it is *good enough* through recognition that resources and time are limited and that optimal decision-making does not result in better outcomes (Oh et al., 2016). In applying the theory of rational decision-making to classrooms, caution regarding unrealistic assumptions, particularly about the amount of information available, and an individual's ability to processes all the information when making decisions must be observed. A collection of these rational and non-rational theories are organised in Figure 3.3 to represent some of the rational and non-rational theories, including those considered in this study.

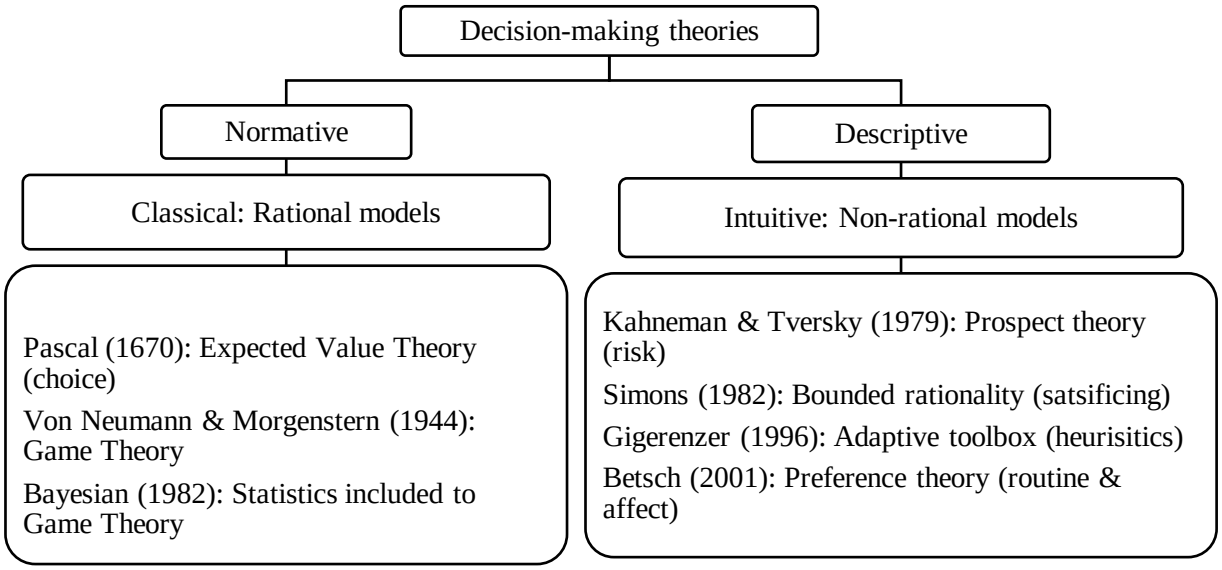


Figure 3.3. Decision-making theories

The work of Betsch, Lehmann, Jekel, Lindow, and Glöckner (2018) acknowledged the complex nature of decision-making and confirmed that research in the area of decision-

making is best situated in studies undertaken in real settings, that is, the classroom itself. In fairness, it is easily understood how decision-making for teachers can be believed to be viewed through a rational or linear lens of bounded rationality as in its simplified form, unproductive student behaviours are represented by: a student breaks a class rule, a teacher applies a consequence and the student returns to the learning as shown in Figure 3.4.

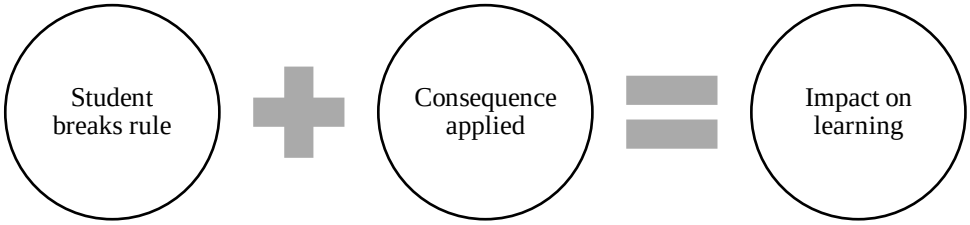


Figure 3.4. Assumption of rational decision-making in teaching

The assumptions underlying this simplified application of rational models to classroom decision-making are flawed because classroom interactions are naturally non-linear (Ell et al., 2019). An optimal decision to reprimand a student can be reached through a predetermined set of rules and objective analysis of the facts. Classrooms are not absent of complexity and each decision is covered in the subjective nature of the context of student actions, the teachers perception of the situation, the available options, and the competing priorities to return all students to learning (Burden, 2020).

Thus, classroom behaviour management does not have one single easy answer for every situation and therefore it is important to understand the difference between the two main theories in decision-making when researching the impact decision-making has on teaching practices. Reviewing literature on opposing and similar theories as outlined in Figure 2.4, led to the realisation that no single model on decision-making would provide the breadth and depth required to understand teacher decision-making in classroom behaviour management. However, it was evident that non-rational models on decision-making were more likely to account for the emotional and personal elements that are evident in classroom interactions and hence teacher decision-making.

3.4.2 Comparing rational and non-rational influences in decision-making

In considering the two broad approaches of thinking about decision-making in research: rational methodologies explain how decision-makers analyse several different outcomes from

each alternative scenario for selecting a final choice. Psychological decision-making models suggest the existence of particular mechanisms through which people process information and interpret their surrounding environments. Hoch, Kurnreuther, and Gunther (2001) affirmed that people rarely adhere to logical models of choice and suggested that variations in human behaviour might not find any theoretical basis in normative models. Furthermore, they noted that these fluctuations in behaviour patterns are more identifiable when uncertain and unexpected scenarios influence decision-makers to disregard probabilities as well as to follow the normative process in unusual ways. It is therefore necessary to investigate the differences between rational and non-rational theories in decision-making to better understand how they may influence the decision made by teachers in classroom practices.

3.4.1.1 Rational models of decision-making

Rational methodologies lead to the optimisation of the outcomes by emphasising the process of choosing rather than on what is chosen (Kahneman, 2003). A certain alternative is always selected whenever its expected value is greater than that of other potential choices. Therefore, decision-making models should provide a comprehensive framework for evaluating values, beliefs and behaviour based on the stakeholder's personal experiences and orientations. Identifying personal influences used when reconciling choices in the decision-making process of seemingly opposing values is the axis of non-rational decision-making models (Yoe, 2019).

Rational models of decision-making do not take into consideration the circumstance or context of the decision to be made (Djulbegovic & Elqayam, 2017), restricting the understanding for the individual to the how and why decisions occur. The theoretical lens of rationality can lead to inaccurate assumptions about causes increasing the risk of erroneous predictions of future behaviours. Between the earlier theories (March, 1999; Simon & March, 1976) and those considered for this research, (Betsch, 2014; Cooksey, 2000) the literature review provided evidence of the need to establish the inclusion of affect in decision-making models to be applied to teacher professional learning programs for classroom situations.

Rational theorists stated that they did not claim to describe the choice process, but rather provided an account of the predictable nature of the outcome and pattern of choices (Simon, 1991). The impact of applying rational and non-rational theories, in recognising

teaching and decision-making, is fundamental in determining how to best understand what influences teacher decision-making in the context of the classroom.

3.4.1.2 Non-rational models of decision-making

The literature on non-rational models demonstrated that it is the choices available in real-life settings based in uncertain outcomes that influence the decision-making process based in areas of sociology and heuristics (Batta & Stephens, 2019; Shaban, 2015). This thinking moves away from the rational models. In a classroom then, these choices are established based on the assessment of the situation, the student involved and the benefit or costs to the classroom. The complexity of a classroom is far removed from the rational thinking proposed by early theorists to understand decision-making. With teachers as the fulcrum to the creation of productive teaching and learning environments, a better understanding of these practices will come from reviewing the theories that situate the process and outcomes of teacher decision-making within the context of real-life settings, the classroom.

While good decision-making does not guarantee a good outcome, a nuanced understanding of human behaviour has the potential to improve decision-making in situations of uncertainty or unpredictability (Lorkowski & Kreinovich, 2018). The literature into how decisions are made in the context of classrooms was an unknown area of an investigation until recently. This reflected the shift in theories from rational and mathematical based processes (Parker et al., 2007), to include affective, social and psychological theories (George & Dane, 2016) and acknowledged the increased recognition of the multipart nature of decision-making.

Betsch, Lehmann, Lindow, Lang, and Schoemann (2016) described human decision-making as a dynamic process and were critical of early decision-making theorists where routine and affect were excluded from the process of assessing options to make decisions. Betsch (2014) further challenged early assumptions that decision-making operated within a vacuum separate to personal external and internal considerations to the individual making the decision. The impact an individual has on the outcome of a decision is influenced by a multitude of factors. For example, as discussed earlier in the chapter, two similar classroom situations can lead to completely different outcomes for two individual teachers based on their course of action, choices considered, and outcome or decision applied.

The individual making the decision influences the decision. Individuals are influenced by the affect of a situation, and even by the affect of prior situations in decision-making. Affect includes a person's expression of emotion or feelings displayed to others and Betsch (2014) believed the impact of affect and routine could not be ignored. Choices used in deciding depend upon different individual experiences, beliefs, actions, and perceptions of the person making the decision; models of rational decision-making (Rezaei, 2016), or rationality, do not suitably consider the prior experiences, affect or established routines or the differences of individual teachers in the analysis of the available choices to decide to act.

Non-rational theories are more able to provide teachers with credible guidelines to develop teaching skills as the environments are the reality of teaching itself. In contrast a reliance on rational, prescriptive guides or tools to explain decision-making in all events, leaves complex decision-making in classrooms with a level of misplaced trust. Classrooms are complicated real-life settings, where this research occurred, to better understand the nature of decision-making for teachers in their everyday practice. Classrooms are social environments where the focus on teaching and learning must dominate classroom conversations.

3.4.1.3 Consideration of theoretical impact on practice

When examining literature on teaching and classroom environments, classrooms require human interactions and operate with the inclusion of the emotive states that occur within those interactions (Bozkuş, 2021; Hagenauer, Hascher, & Volet, 2015). The literature reviewed did not provide evidence on the suitability in rational theories of decision-making to explain these processes sufficiently. Human interactions cannot be void of emotions that are influenced by consideration of past experiences int eh decision-making process; as such, these mental processes are relevant to this study. Such mental processes are based on the principle that people's beliefs and values influence their information processing. Beliefs and values are termed schemata and comprise concepts of self, other individuals, and script (Bicchieri & McNally, 2018). Rational decision-making models establish a weighing mechanism between choice and value rather than a personal value that reflects the personal attributes of the person making the decision.

Research into teacher decision-making needs to accommodate the multiplicity of options that are sensitive to and responsive to different circumstances, conditions, people, times, and places in classrooms. In their work integrating ethical decision-making and policy

implementation approaches, Loyens and Maesschalck (2010) found earlier models on decision-making focused on the identification of influencing factors but failed to provide insight into the relative impact of factors and the way certain factors influence decision-making, meaning that these research traditions based in rational theories consist of factor studies rather than process studies, rational compared to non -rational.

Schools and classrooms operate within a process focussed context. That is to say, that they decision are driven by expectations, processes, and knowledge on what the system requires of a teacher to facilitate educational outcomes. All operations are grouped according to the type of process. Process studies take into consideration the context and variables that may influence decision-making. The consideration of this social aspect provides an area of concern as it cannot be ignored that the processes that surround classrooms increase the unpredictable nature of the decision-making that occurs within them. In contrast to these earlier models, Loyens and Maesschalck (2010) referred to the construct of social mechanism, the inclusion of "ultimately unobservable physical, social, or psychological processes" (p.84). Theories from the cognitive psychology field emerged that took into consideration the inclusion of emotion, cognitive deliverance, and prior experiences. These theories include, but are not limited to: choice theory (Burns & Roszkowska, 2016), expected utility theory (Fishburn, 1984), prospect theory (Tversky & Kahneman, 1992) and preference theory (Betsch, Lindow, Engel, Ulshöfer, & Kleber, 2015).

Each of these theories mentioned, provides a specific lens through which to consider decision-making. However, as demonstrated by the breadth of research into decision-making in Figure 2.4, it is doubtful that one single theory would provide the answer for decision-making in complex environments such as classrooms. Complex classroom environments are intertwined with multiple constructs and are influenced by: the context of the decision (environment); the decision-maker (person); others affected by the decision (other people) and data (information) used to make the judgment or final decision, all described as relevant and pertinent to the decision-making process by Cooksey (1999).

An example of one such theory that was a product of cognitive psychology is that of the Attribution Theory. Several authors (Fiske & Taylor, 1991; Iyengar et al., 2006; Pishghadam & Abbasnejad, 2017) highlighted the importance of schemata in determining how people interpret new information based on their pre-existing beliefs. Once schemata forms there is an increased likelihood to resist change (Bicchieri & McNally, 2018). Another important element of the Attribution Theory is heuristics, which consists of rules people use to test their schemata and facilitate the processing of information (Hafenbrädl et al., 2016). A criticism

of this theory in applying it to classrooms and teacher decision-making is that heuristics and cognitive biases may result in attribution errors. For example, heuristics could impair the process of rational revision and judgment, which may lead decision-makers to be more inclined to misinterpret new information and therefore revert to habits or schemata that is known. The literature reviewed provided a rich text on decision-making, but little evidence was unearthed that answered the research question and informed practice on teacher decision-making within the classroom environment.

3.5 Teaching practices

The literature consistently demonstrated the impact teaching practices have on student academic achievement (Oakes, Lipton, Anderson, & Stillman, 2015). Teaching practices create the learning environments that promote student learning. Dinham and Scott (2000) cited positive student behaviour, positive student attitudes and positive student achievement as powerful satisfiers for teachers (Sass, Seal, & Martin, 2011). These all highlight the contextually interactive nature of the classroom environment that influence and are influenced by the decisions a teacher makes.

In the development of knowledge and skills for teachers, within the context of classroom practices, it is essential to understand the influence hidden curriculum has on forming the response patterns in classroom management. According to Cummings (2000) teachers confident in managing student behaviours increase student engagement, decrease class disruptions, and make good use of instructional time. These teaching practices in the classroom to focus students on academic tasks and create optimal learning spaces is of utmost importance.

3.5.1 Environment

Bradshaw, Waasdorp, Debnam, & Johnson (2014) defined classroom climate (environment) as "the shared beliefs, values, and attitudes that shape interactions between students, teachers, and administrators and set the parameters of acceptable behaviours and norms for the schools" (p.594). As a construct, classroom environment and school climate reflect the quality of teacher-student relationships, the expectations and management of student behaviours to meet those exceptions through rules and discipline methods, school safety, and school connectedness/belongingness aggregated at the school level (Debnam,

Johnson, Waasdorp, & Bradshaw, 2014). In Australia, a public statement that describes professional knowledge, practice and engagement for teachers, describes in Standard Four what is expected in the provision of safe, supportive learning environments (Australian Institute for Teaching and School Leadership, 2010). Creating a classroom environment which is conducive to learning is one of the most important things a teacher can do (Findley & Varble, 2006), with the classroom environment reflecting the climate being a broad construct, made up of students' feelings about their teacher, peers and the ability to learn (Barr, 2016).

The literature provided evidence on student disruption as a concern in the establishment of productive teaching and learning environments, impacting on student achievement and teacher wellbeing (Weldon, 2018). However, limited evidence was available on the impact of teacher decision-making in response to these student behaviours, and the relationship that these decisions have on the classroom environment. The impact of student behaviour on classroom environment includes the bearing a decision will have on student learning (Sutcliffe & Whitfield, 2018); other students (Bradshaw et al., 2014); teacher attitude to class and teaching (Castelló, Gotzens, del Mar Badia, & Genovard, 2010); along with teaching and curriculum delivery and students' attendance or absenteeism (Freeman et al., 2016). Every decision within a classroom is informed through an array of choices available and the risk associated with each of those choices.

It can thus be agreed that decision-making is complex (Bento, 2016), and choices have costs and benefits to the student, the teacher, the classroom environment and the school. Moreover, the unpredictable nature of a classroom (Saito, Dewaele, Abe, & In'nami, 2018) and the diversity of the students within it (Montgomery, 2001) means that teachers' decisions have the potential to impact positively or negatively on those within the classroom itself. Therefore, it is acknowledged that when a teacher executes a decision, it will potentially impact on many more individuals than only the student it is directed towards and influence the learning environment. In this environment, these choices are linked to the pedagogical decisions made and how the instructional and behavioural management of tasks by a teacher will influence the environment in which they teach.

The decision-making processes of teachers will influence the strategies, activities and assignments used to instruct students, whether with an unconscious or conscious awareness. Teachers are often unaware of what learning theories they follow, this can be related to tacit knowledge (Loughran, 2019b). Therefore, pedagogy is important for teachers to consider in understanding their beliefs systems and responses to classroom management. Without a

terminology that we can use to identify the various aspects of teaching and learning and how each relates to the events that occur in teaching practice, reflection, analysis, and discussion on that teaching practice will be limited. Without a dialogue about interactions that are healthy, positive, and effective as well as those that are negative, unproductive, and misaligned with our values, any thoughts, feelings, or reflections teachers have about their roles cannot be fully understood. Understanding the context in which decisions are made could influence the response to initial teacher training and ongoing development in teacher education around classroom behaviour management.

3.5.2 Classroom behaviour management

Two hundred and forty-two principals completed an opinion survey with the most frequently perceived causes of teacher ineffectiveness including classroom behaviour management skills (Torff & Sessions, 2005). For behaviour management programs to be effective in creating productive teaching and learning environments in schools, leaders believe that teachers need to know how to implement the desired strategies and have the skills to do so. In managing a classroom, the end goal is that student disruptions decrease, providing increased time for teaching and learning.

To achieve this goal teachers need to understand the purpose of classroom behaviour management, have the skills to meet these demands, and make good choices within the context of the classroom in which they make their decisions (Clunies-Ross et al., 2008). To this end, teachers need to understand what constitutes positive and negative classroom behaviour, or more so student behaviours that are productive or unproductive to the classroom environment. Across the literature, there are many different strategies that teachers can implement in their classroom to create long-term changes to disruptive student behaviour.

Strategies of classroom behaviour management vary significantly across Western nations: typically north European countries take a predominantly restorative approach to discipline (Vesikansa & Honkatukia, 2018), whereas in the United States of America the approach is largely based on punishment, including exclusion and authoritarian discipline. In the United Kingdom, New Zealand, and Australia, the approach is mixed with strong elements of restoration and exclusion embedded within policy and practice.

Policy informs expectations on teaching practice through the Australian Institute for Teaching and School Leadership (2010) standards, to promote and maintain order in

schools and individual classrooms to increase access to education for all. Henley (2010) identified classroom management as the "essential teaching skill" (p. 4) suggesting that effective teachers minimise misbehaviours to reduce interruptions to the learning process and create learning environments that allow for students' intellectual and emotional growth. Behaviour management includes the strategies and systems that teachers use to manage and eliminate difficult behaviours that prevent students from succeeding academically (Simón & Alonso-Tapia, 2016). Classroom behaviour management can therefore be defined as the creation of systems that support the desired student behaviours across a classroom (Rogers, 2015).

The onus on teachers to implement and enact these policies through their individualised classroom management is seen to be a key responsibility with individual teacher decisions to be based upon the context and guidance of whole school behaviour plans, based on policy and procedures that are driven from government bodies. The purpose of behaviour procedures and plans in a school and classroom level, is to provide a level of consistency on the management of decisions used to correct behaviours to decrease student disruptive behaviours while increasing time for teachers to focus on content delivery and instructional teaching time (Casey & Worthen, 2019). The effectiveness of any program on managing student disruption depends on a multitude of variables, from its appropriateness to specific demographics, the experience of the teacher using the program, to the training and implementation of such programs (Ministerial Advisory Committee for Education Renewal, 2005).

A review of the literature by Beaman, Wheldall, and Kemp (2007) found that, while student disruption is of great concern to teachers, the student behaviours that impact on teacher stress the most are not necessarily aggressive behaviours but rather those low level and persistent, indicating the severity of disruption is not as influential on teacher stress and classroom environments as the recurrence of unproductive behaviours. More recent research found throughout the literature supported these earlier findings (Beuchert et al., 2018; Chaplain, 2016).

Across the literature, it was agreed that student disruption contributes to teacher stress (Skaalvik & Skaalvik, 2015) through the time taken away from the primary goal of teaching. Time is a precious commodity in the classroom (Harbour, Evanovich, Sweigart, & Hughes, 2015), with teachers required to juggle many competing priorities, often navigating new and unknown situations. Priorities for teachers in meeting their role include: curriculum (Australian Institute for Teaching and School Leadership, 2010), differentiating for individual

needs (Ho & Liu, 2015), extra-curricular activities, time lost for school-based interruptions, and then the time required to manage student disruptions (Chaplain, 2016).

Some students seek teacher attention through means such as recognition of appropriate behaviours and/or learning achievements while other students seek teacher attention through refusal to meet classroom expectations or interrupting the learning space (Nash et al., 2016). Attending to such a diverse population adds to the stress a teacher feels when managing classrooms. Teacher stress is compounded by student disruptions alongside through the multitude of demands that take the time away to allow teachers to deal with the more disruptive actions of individual students. Each decision potentially adds to the stress of teaching and the more stressful a situation is perceived to be, the more likely it is to have negative affect attached to it. Stress is linked directly to negative emotions (Prilleltensky, Neff, & Bessell, 2016) and will influence teacher decision-making.

Negative affect influences a teacher's reaction to events and in turn influence the environment in which they are teaching. Of potential stressors in the classroom, unproductive student behaviours are regarded as the most common and frequent interruption to the learning environment (Richmond, 2007b). Therefore, it can be observed that unproductive student behaviour is a major reason for teacher stress and is directly linked to increased negative teacher affect (Bower & Carroll, 2017).

Teaching is acknowledged as intensely emotional work, with feelings that can range from joy to rage (Frenzel et al., 2016). Dealing with complex social interactions requires teachers to draw on their emotional and intellectual resources regularly (Hensley, Pekrun, Goetz, Frenzel, & Keller, 2014). In classroom interactions, even positive emotions used to maintain positive interactions increase the cognitive load required to teach (Hagenauer et al., 2015). The affect of a teacher is linked to teacher-student interactions and is reflected through positive or negative affect. Behaviours that interfere with teaching and learning produce a negative affect in teachers, and possibly other students in the classroom. The preparedness for teaching essentially has a focus on curriculum delivery, with the idea of relationships unknown until a teacher is in front of their own classroom.

Classroom behaviour management can therefore be a stimulus-driven response that occurs specifically within the classroom based on how students are acting in the classroom in response to what is going on or present around them. Student behaviour can be understood as existing along a continuum based on the perceptions of how a teacher believes that behaviour interrupts the learning (Deakin & Kupchik, 2018). The continuum in any educational setting

includes behaviours that add to the learning environment in a positive manner to those behaviours that disrupt or even create unsafe learning environments.

At polarised ends, student classroom behaviours fall into two categories: positive or negative behaviours. Examples of positive behaviours may include students following teacher directions, completing assignments, and remaining attentive while the teacher speaks. In contrast to these positive student behaviours, examples of negative student behaviours may include students off-task, talking while the teacher is talking, students being physically aggressive or threatening others, talking out of turn, and disrupting the learning of others. Disruptive or unproductive learning behaviours in a classroom increase the stress levels for both the teacher and pupils, disrupt the flow of lessons, and conflict with both learning objectives and the processes of learning. They also change the classroom dynamic as the focus of attention shifts from the academic tasks at hand to the distractions provided by disruptive student behaviours (Parsonson, 2012).

The literature demonstrated the link between unproductive student behaviour and the impact on lesson delivery (Beuchert et al., 2018). Lesson delivery can be broken through direct interruptions of student behaviours or the interactions between the teacher and student concerning the unproductive behaviour. Unproductive student behaviours that disrupt other students and teachers potentially lead to less desirable teaching and learning environments and increase teacher stress (Banks, 2014). Chapter one discussed the concept of flow, and in this environment of disruptive student behaviours, flow would be seen to be interrupted (Csikszentmihalyi et al., 2021).

To support teachers in the classroom, it is fair to surmise a common language around student behaviour would be beneficial. When developing the definition of unproductive student behaviours, it was found across the literature to include instances where students are talking out of turn, students are talking over the teacher, student idleness, work avoidance, and hindering other students working. These are each considered a low-level interruption to favourable learning conditions. Sullivan et al. (2014) organised unproductive student behaviours into ten categories: aggression, non-compliance, disruption, inattention, erratic behaviour, impulsivity, lack of motivation, being unresponsive, being unprepared, and irregular attendance (Sullivan et al., 2014). These behaviours have different levels of intrusion to the learning of self and others.

Behaviours that are seen to be less intrusive, such as noncompliance, unresponsiveness and inattention are behaviours represented through student's non-participation in classroom activities and can extend further to include: talking to peers or distracting peers and talking

while the teacher is talking. They are low in the level of disruption, but persistent (Pas, Cash, O'Brennan, Debnam, & Bradshaw, 2015). Other behaviours cited as aggression, swearing, and impulsivity also impact and interrupt the learning of self and others and at times impede the curriculum delivery of the teacher. This wide array of behaviours is represented along the continuum in Figure 3.5 based on the level of intrusion they are likely to deliver to the flow of curriculum delivery in the classroom.

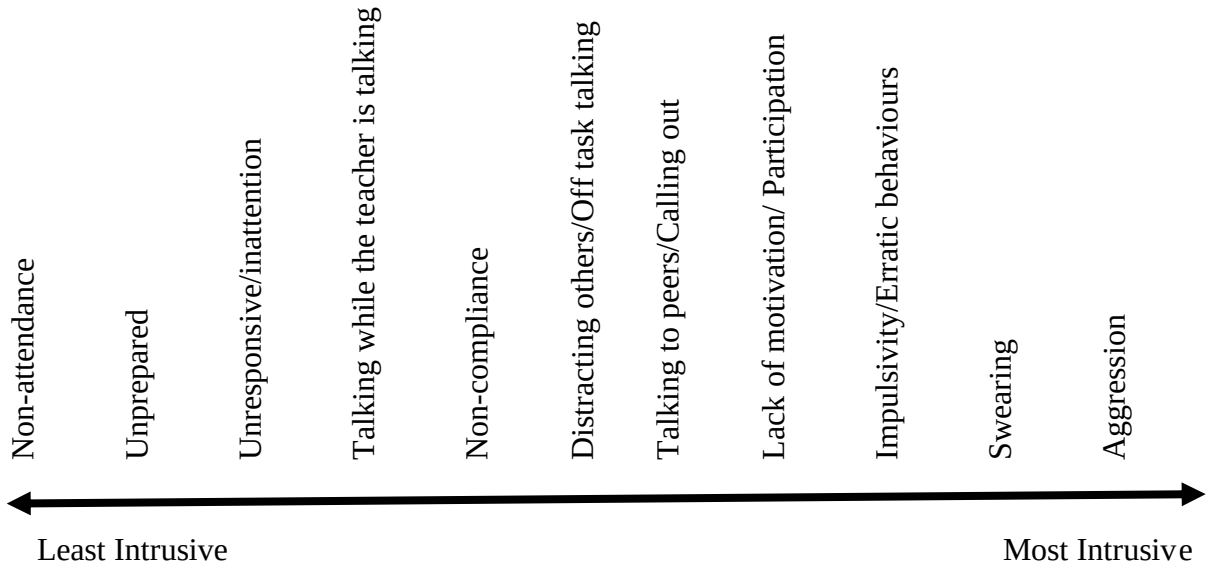


Figure 3.5. Continuum of student behaviours (Adapted from the work of Sullivan et al. 2014)
.

The decisions made by teachers are formed from the foundation of relationships through the interactions that occur between the teacher and their students, and have the potential to redirect students to the curriculum and learning or escalate unproductive student behaviour further (Kutsyuruba et al., 2015). Those relationships and the interactions between teachers and students will be discussed in the next section.

3.5.3 Teacher-student interactions

Classrooms are social environments with complex interactions that influence the environment in which teaching, and learning occur. These interactions between teachers and students are based in either curriculum or behaviour conversations. Behaviour conversations between teachers and students are categorised by the influence they have on the classroom environment as either productive or unproductive (Richmond, 1996).

Brouwers and Tomic (2000) found that teacher-student interactions become cyclical in nature and influence teacher confidence in classroom management, with the occurrence of positive interactions between students and teachers increased the likelihood of more positive outcomes. Furthermore, teaching occurs in the classroom and the decisions made within this context are in response to teacher-student interactions focused on student behaviours that impact the learning environment (Sun, Hendrickx, Goetz, Wubbels, & Mainhard, 2020). These real-life situations are poorly associated with the dichotomy of rational theories of decision-making, in which theoretically, options are limited, and responses are based on a yes or no alternative.

Teachers reinforce productive student behaviours through positive teacher-student interactions, which means that students learn to access teacher attention through positive interactions with the teacher. In contrast, students with unproductive behaviours are reported to access teacher attention more often through negative interactions (Banks, 2014) than when they are demonstrating productive behaviours, which increases the likelihood of them repeating unproductive behaviours to access future teacher and peer attention. Responses made by a teacher to student behaviours impact future student behaviours and therefore change the teaching and learning environments for all students.

It is important to understand the human relationships and the representations throughout the literature that acknowledge the influence student behaviours have on teacher behaviours and vice versa. For instance, the language used in emotional states of positive affect is similar across different cultures, as are the facial expressions and non-verbals associated with states of positive affect (Stroe, Sirén, Shepherd, & Wincent, 2020). The same can be said for states of negative affect. Negative affect most often comes in response to negative teacher-student interactions that originate in classroom disruptions and unproductive student behaviours. The interactions between a teacher and student are important because behaviours will be repeated if those behaviours garner teacher attention.

A study conducted by Reinke, Herman, and Newcomer (2016) found students who received more negative feedback than positive feedback from their teacher were rated at the end of the year as having a significant increase in problems with emotional regulation, concentration problems, and observed increased unproductive classroom behaviours. Whereas students whose interactions were based on more positive conversations and feedback, demonstrated significant increases in prosocial behaviours (Reinke et al., 2016).

What this translates to in the classroom, is that students learn to gain teacher attention through certain behaviours and are more likely to repeat the same behaviours in future, for

similar responses (Álvarez et al., 2016). To increase positive teacher-student interactions, teachers need to recognise and respond to the behaviours they want more regularly and reduce their responses to the behaviours they do not desire within the context of their classroom (Chaplain, 2016). These behaviours potentially influence the decisions made, and the decisions teachers make will influence the classroom environment. Positive interactions attract positive affect, negative interactions attract negative affect.

The outcome of teaching decisions is based on teacher-student interactions and the skills that teachers apply to consider choices available when faced with classroom decisions related to classroom behaviour management. Understanding the influence of these factors on teacher decision-making provides an opportunity for improved pre-service and in-service teacher education programs. An increased understanding of decision-making will better position the design and delivery of professional learning programs for teachers at all career stages, to ensure teacher preparedness in the knowledge and skills necessary to do the work of teaching. The benefits of professional learning to teaching practices are well documented in the literature reviewed. Consideration of future programs needs to give consideration to the relevance of the training, and ability of teachers to transfer these skills back into their classrooms. Alongside the impact that their prior experiences have as a challenge to changing long held beliefs and practices in classroom behaviour management.

3.6 Professional learning programs

The opportunity to access professional learning programs is vital for the life-long development of teachers. Darling-Hammond, Hyler, and Gardner (2017) defined professional learning as any structured professional program of education that results in changes in teacher practices aimed to improve student learning outcomes. Kyndt, Gijbels, Grosemans, and Donche (2016) differentiated between the learning that occurs informally and formally, noting the importance of classroom practice in teacher development programs. A study of 498 participants by Zerr et al. (2018), demonstrated that people vary in their ability to both learn and retain information, reinforcing that learning is a highly personalised process. This is meaningful when considering the development of programs for teachers. If individuals learn differently, then effective programs would reflect multi-level mediums to teach information and provide ongoing support to increase reflection on individual practice.

If there is an increased understanding of the behaviours of teachers in making classroom decisions, this understanding can inform targeted professional learning programs, to build effective knowledge and skills for teaching. Across the literature, numerous approaches to classroom behaviour management and the development of positive school cultures were evidenced (Gage et al., 2015; Lemov, 2015; Wolff, Jarodzka, & Boshuizen, 2021). Many boasting success in specific areas and demonstrating the area in which they have supported and developed successful programs. A number of these were discussed in the early sections of this chapter: PBS, PB4L, Restorative Practices, and Functional Behaviour Assessment all of which offer different benefits to the systems within a school to set standards for behaviour expectations. What was less evident throughout the literature examined in each of these areas were clear guidelines of the knowledge and skills necessary for teachers to achieve success in creating these classroom cultures.

Available programs and frameworks were clear on what a classroom should look like, what behaviour should be attained by students to meet positive classroom expectations, the artefacts and rewards used to encourage increased knowledge of those expectations, but with little empirical or evidence-based research found on how a teacher reaches this end goal. The gap in the literature became clear, with no concise set of actions that would support a teacher in building the positive classroom behaviours to support cultural change at a classroom, school, and systemic level. The impact of professional learning programs. to develop knowledge and skills will be influenced by the prior experiences, the consideration and preparation to account for the change process, the relevance of the training program, and the ability of the program to provide transference of these new skills to classroom teaching practices. While teachers may gain knowledge and skills through a professional learning program, the system and the teacher will benefit when the program provides a framework that enhances awareness of practice and a likelihood of reflective practices.

3.6.1 Prior experiences and reactive skills

When teachers have the knowledge and skills, they are more likely to succeed in reducing interruptions to the learning environment (Mayer & Mills, 2021; Tarman, 2016). Through the use of preventative and proactive teacher actions teachers use class time wisely and increase the instructional time for curriculum delivery (Kenwright et al., 2021;

Rivkin & Schiman, 2015). To achieve this success in teaching practice, teachers are required to change long held beliefs in regard to behaviour management.

The benefits from lifelong learning that reflects changes in educational policies and specific demographic knowledge from the place of employment was cited across the literature (Kennedy, 2016; Michalsky, 2021). While this gap can be assumed to be easily bridged through targeted and deliberate professional learning programs (Cooper, Fitzgerald, Loughran, Phillips, & Smith, 2021; Loughran, 2019a), the greatest inhibiter to change in practice is a reliance on past practices, and habits that have a degree of effect in application without reflecting current educational reforms. Teachers need increased awareness in their own habits of practice before being able to change that practice. Such awareness can be sought in experiential learning.

The benefits to teachers of experiential models to learning are the ability for individuals to apply their own life experiences to their own learning journey. Therefore, teachers as practitioners draw upon their own experiences in the classroom as a foundation to engage with new learnings. This approach acts to motivate teachers to try new practices and make desired changes a practical reality (Darling-Hammond et al., 2017). Moreover, in experiential methods of learning, teachers are open to engaging in conversation, collaboration, and observation, which Hargreaves (2019) identified as necessary for effective changes to professional teaching practice.

It is a necessity for teachers to have access and opportunity to well developed and effective professional learning programs to build skills that will increase self-belief in teaching capabilities (Australian Institute for Teaching and School Leadership, 2010; Fisher et al., 2021). It is reasonable to accept that teachers are time-poor and the scepticism of the benefits a professional learning program will add to their workload is justifiable. From the literature reviewed, the relevance in classroom behaviour management is underestimated as current programs continue to offer reactive methods of classroom management (Hepburn et al., 2020). These programs provide a false sense of security to teachers.

Teachers rely on known skills to manage student disruptions that are based in habits formed through previous practices for similar situations, or those they have experienced themselves as a student in a classroom. In this current climate, often these periods in a teacher's life were associated with more punitive methods for classroom management than those expected in today's classrooms. Punitive methods to manage student disruption provides a degree of success in the teacher actions used as these interactions will interrupt

student behaviours, generally only for a short period of time. These behaviours are then repeated and herein lies the foundation for teacher frustration and exhaustion (negative affect). Proactive interactions are more likely to change student behaviours for longer periods of time and in the process change the classroom environment.

There is associated reluctance to change classroom behaviour management practices that have worked well in previous years. That is, a teachers prior experiences are a barrier to the change process required to embrace new and more current practices (Hobbiss et al., 2021). This resistance to change will add to teacher stress and frustration that can lead to teacher attrition are underestimated in effect.

3.6.2 Reflection in practice

Historically, teachers were not encouraged to spend time talking about teaching in theoretically robust ways, or to unpack their teaching to show others what they know, how they know it and why they teach in particular ways (Loughran, 2019a). In understanding the reflective nature of classroom practice and the impact of professional learning programs on that classroom practice, the challenge was found in the limited evidence on how teachers think about their practice, while they are busy doing the work of teaching itself.

Professional learning programs are delivered with the intent to transfer new knowledge or skills to teachers that can be used in classroom practice or planning (Avalos, 2011; Hobbiss et al., 2021). Traditional models of professional learning are delivered in one-off workshops or seminars of part or full-day duration. In some cases, professional learning occurred when teachers attended conferences of state or national organisations. Criticism of these more traditional methods of delivery for professional learning programs has grown for their reduced likelihood that knowledge and skills would be generalised and successfully transferred back into the classroom setting (Sterrett & Imig, 2011). A large part of this transference of knowledge is the question of how teachers can reflect on their practice and change future actions based on a framework for that reflection (Peel, 2019; Singh et al., 2019).

The Australian Professional Standards for Teachers provides clear guidelines on how to move from graduate teaching to proficient teaching and encourages processes that provide reflection on teaching practice (Australian Institute for Teaching and School Leadership, 2010). This study was interested in how professional learning programs move from

reflection on practice, to reflection in practice. The ability of teachers to change their practice while in the moment of teaching, to improve their teaching and learning outcomes (Coward, 2021). The aim of this study was to understand what influenced decision-making and the difference teachers can make when equipped with the knowledge and skills to reduce the need for students to be managed.

could be altered during practice through a professional learning program that enabled teachers to consider the purpose of reflection and to help them explore their role in fostering environments in which to reflect.

3.6.3 Relevance through experiential learning

When professional learning programs provide the right opportunities for teachers to acquire the knowledge needed and the circumstances to develop the skills in a reflective space, they could potentially be the key to reduce job-related stress around classroom management and teacher attrition. Teachers with the knowledge and skills can relearn routines and manage to affect to improve the process of decision-making and are more likely to create favourable classroom environments for learning (Cooper et al., 2021; Irby & O'Sullivan, 2018; Seaton, 2018).

The application of a professional learning program that would provide the skills to balance valuable and finite time between curriculum and behaviour conversations in the classroom would be of high relevance to teaching practise. Such professional learning would provide teachers with the foundations for positive attitudes to teaching as they increase their success in the classroom and develop the skills to do the work.

Assumptions in the literature deal with the relevance of professional learning programs as the analysis of needs, problems, change processes, feelings of efficacy, and beliefs are all factors that contribute to teacher professional development, be it through enhanced cognitions or new or improved practices (Avalos, 2011). The focus on reflective participation in adult learning has shown a growth in professional learning theories underpinned by experiential learning (Cordingley et al., 2015). Professional learning is believed to be more effective when coupled with experiences that reflect the actual place of work.

Experiential learning is the process of *learning* through experience and can be enhanced through reflection on doing (Kolb, 2014). Hands-on *learning* can be a form of *experiential learning* but does not necessarily involve teachers reflecting on their practice

as opposed to experiential learning that includes an element of reflection in their practical application of the skills learned. The inclusion of experience and reflection provide a significant link to new learning and relevance to individual teaching practices.

Experiential learning views are founded in the works of Dewey (Kolb, Boyatzis, & Mainemelis, 2001), Piaget (Kolb, 2014), Vygotsky (Yardley, Teunissen, & Dornan, 2012) and Hahn (Hayden & McIntosh, 2018), and at the centre of each approach is the focus on a lived experience encouraging reflection on ways of thinking and acting. Experientially based learning, in teacher programs, are focused on the experience of teachers developing their practice whilst in the classroom: experimenting, reflecting, and adapting new theories, practices, and content that has been introduced in a professional context. This process can be individual with reflection used as a tool for self-direction (Gabrys-Barker, 2018) or shared through professional learning activities such as lesson study (Wood & Cajkler, 2018) and participation in professional learning communities (Warwas & Helm, 2018).

Camburn and Han (2015) found it more likely that teachers could verbalise their reflection on professional learning experiences which were based on similar beliefs to their own classroom teaching. Interestingly though, teachers engaged in reflection were more likely to report a change to their classroom practice, it is believed through consideration and comparison of new learnings to their formed beliefs on practice (Fry, Klages, & Venneman, 2018).

Existing approaches to professional learning underpinned by experiential learning, are effective in confirming the impact of personal beliefs as well as developing new knowledge and skills in teaching practices. Gabrys-Barker (2018) provided evidence of using caution where reflection occurs without a clear structure providing suitable prompts for the reflection, in cases where this was missing reflection was noted as a "nebulous panacea" (Girvan, Conneely, & Tangney, 2016, p. 12). A responsibility of any professional learning program is to provide training on new knowledge and skills through a framework that enhances the increase in the transference of each back into practical application (Paramita et al., 2020). For teachers, this is the transference of knowledge and skills back into their teaching practice.

3.7 Chapter summary

To understand the complexity of classrooms and the decision-making processes expected for teachers within this environment, the conceptual framework focussed on three key areas: decision-making, teaching practices and professional learning programs. The maximisation

of teaching time or learning conversations in the classroom is crucial for teachers to attain their teaching goals and maximise the learning opportunities of individual students. Time in the classroom is valuable. In these time-bound environments, teachers are under pressure to deliver curriculum, no matter what the perceived classroom environment is. The competing pressures on classroom teachers to make the right decision every time increases the cognitive load in classroom practice. To develop the skills required for teaching, the literature showed evidence of the benefits of professional learning programs that develop skills within a learning program that provides room for coaching and reflective practices that can adjust during that classroom practices.

For programs to be effective within schools, teachers must have the knowledge and skills to implement practices that will be effective for long-term positive behaviours. To do so, teachers need access to skill development and knowledge on how to best implement new skills in their context. The decisions teachers make have the capacity to increase positive teacher-student relationships, create productive teaching and learning environments and support positive teacher wellbeing. Through appropriate professional learning programs, teachers gain the skills to develop new habits of practice and procedures to build positive classroom climates, benefitting their classroom management practices. The next chapter will provide the basis for the study through the research questions and the methods used in the research design.

CHAPTER 4 RESEARCH DESIGN

Research shows that there is only half as much variation in student achievement between schools as there is among classrooms in the same school. If you want your child to get the best education possible, it is actually more important to get him assigned to a great teacher than to a great school. (Bill Gates, 2009)

While research continues to support the focus on change to best reflect the needs of the population that it is engaged to educate, the teacher is the fulcrum to accessing that education in any setting. In the previous chapter the conceptual framework was developed with a review on theories that underpin decision-making. This led to an investigation into teaching practices and professional learning programs. In response to the literature review, it was evident that a qualitative approach to the research would establish a deeper understanding of teacher experiences and provide the basis for the design of this study. In this chapter the applicability of a qualitative approach through an interpretivist inquiry for this study is discussed in depth. The research design, including the methodology, participants of the study, data collection procedures, analysis methods and ethical considerations are also primary components of this chapter

4.1 Overview of the chapter

This chapter describes the research design adopted to achieve the purpose stated in Chapter 1; to understand the influences of cognitive load and affect on teacher decision-making in teaching practices. Section 4.2 states the research questions, and section 4.3 considers the researcher in the study. The methodology implemented is discussed in section 4.4. The research design is presented in section 4.5 and the data collection tools used in the study are described in section 4.6. Section 4.7 outlines the research protocols and participants with the data analysis methods provided in section 4.8. Section 4.9 discusses validity, reflexivity, and researcher bias along with trustworthiness. The ethical considerations of the research, and problems are presented in section 4.10 with Section 4.11 concluding the chapter summary.

4.2 Research questions

This study sought to build an understanding of the phenomenon of teaching and teacher decision-making through the following the central research question:

> How does teacher decision-making impact on the development of productive classroom environments in teaching practice?

The guiding questions that shaped the study were:

1. What influence does cognitive load and affect have on teacher decision-making in the classroom?
2. What difference does the Classroom Profile program make to teaching practices?
3. How did the Four Dimensions professional learning program change teaching practice?
4. Do the decisions teachers make impact on the flow of teaching and learning?

4.3 The researcher in the study

In this study, as the researcher, I train teachers in the program of Four Dimensions, and during the early period of this research was a Deputy Principal of a school within the Queensland Department of Education Training and the Arts, Australia. My interest in this study grew from the role I performed in human resources and the demand for a continual requirement to replace school teaching staff who left the profession.

Working in a regional area, in a low Index of Community Socio-Educational Advantage (ICSEA) school, the continual fight to attract, and then to retain teachers was forever imminent. For example, a Year Nine science class had 13 teachers in a single 10-week term. This disruption cannot be beneficial to a student's learning, the morale of school staff, community confidence, nor for the teachers themselves. Rather than looking at the pressures of the job of teaching I wanted to investigate what could be done to support teachers to reduce their stress and workload within the classroom. In looking into the literature on teacher attrition, student disruption was cited regularly (Borman & Dowling, 2017; Weldon, 2018). Identifying the benefits to teachers and students in classrooms with reduced student disruption provided the springboard for this research.

In 2008, I investigated several classroom observation tools and began training staff in classroom observation processes: Cambridge effective classroom observations (Education, 2021) and Classroom Profiling (Department of Education Training and the Arts, 2015b). The intent was to provide staff with support to match systemic and political changes in education

that impacted teaching practices. In addition, I sought a process that would provide teachers, as well as administration teams, with evidence of improved teaching practices. During this period, classrooms were operating under privatised practice, teaching occurred within silo situations and with little evidence of collegial networks. The idea of teachers observing one another in one another's practice was a new approach to teacher professional development. I initiated a period of change towards de-privatisation of classroom practice within our school. With this structural change, my school conducted classroom observations through peer-to-peer observations in 2011. This afforded a positive approach where teachers watched one another teach and then provided feedback based on the Australian Professional Standards for Teachers (APST) (Australian Institute for Teaching and School Leadership, 2010).

The initial stages of acceptance by teachers to this observation process was slow, with teacher distrust and a sense of challenge in performing in front of their peers. These teachers' perceptions created operational obstacles in the implementation process. From the inception of this project, most teachers at my school cited that they had not had any formal observational feedback since they began teaching. For some teachers, who had taught for over 25-years, observations of their teaching practice had not occurred, and therefore the idea of peer-to-peer observations was at first daunting. Additionally, staff from local schools questioned the direction of my school.

Teaching in Queensland, at this time, had a strong history of teachers independently managing their classroom space, with little, if any, involvement from administration or other teachers. However, this attitude was challenged, when in late 2013, the Queensland Teachers' Union released a statement in support of schools using classroom observations; specifically citing the need for the de-privatisation of classroom practice across all schools (Lasagabaster & Sierra, 2011) however, by this stage, I was already regularly inside classrooms as standard practice in my school, and increasingly more staff had embraced the opportunity for feedback and conversations about their teaching practices.

Cambridge effective classroom observations (Education, 2021) is a process whereby teachers observe each other around a set of agreed-on standards. This process of observations saw four years of successful implementation at my school, but staff began to question how else observations could inform them regarding reflection on their practice? While peer-to-peer observations provided explicit feedback on the APST standards, teachers fed back the growing need to gain practical knowledge and skills in managing students' classroom behaviours, and the current systems for positive school actions alone were not making the changes they wanted to see in their classroom. Teachers were asking for help in

developing their specific skills in classroom behaviour management and for improving teaching strategies to create productive teaching and learning environments.

After a year of further investigation into other tools, I attended a workshop on Classroom Profiling. At this workshop, I was introduced to an observational tool based on the Essential Skills of Classroom Management (Department of Education and the Arts, 2006). Some schools were using this tool to build teacher capacity in classroom behaviour management and the local chatter around Classroom Profiling was sufficient to pique my interest and undergo the training myself. With the implementation of this new program in my school, there was anecdotal evidence of a shift towards staff using a common language around classroom behaviour management. This in turn increased the accuracy of communication amongst staff about student behaviours in both verbal interactions and written reports.

What remained unclear to me was the perpetual differences among teachers and their teacher-student interactions, resulting in different behavioural outcomes. Teachers who were practising in the same school, with the same overarching policy and procedures, experienced different student behaviours in their classrooms. This led me to question how the decisions teachers made influenced their teacher-student interactions and whether these impacted their teaching practices?

The outcomes of my experiences led me to identify the shortcomings in both of the classroom observation tools I had investigated for teachers. The Cambridge Peer-to-Peer observations were based on observer opinions and interpretations of the Australian Professional Standards for Teachers, while the Classroom Profile training increased a common language with limited empirical evidence on the impact of the program. Therefore, I began this study to investigate and identify the differences amongst teacher-student interactions by the Classroom Profile tool to collect classroom observation data.

It follows then, that my research drew upon my personal experiences, as a classroom teacher, as a school leader, a consultant within schools, and as a reflective practitioner. I recognise that as a researcher I bring to the study my experiences, ideas, prejudices, and personal philosophies. Therefore, I understand that it is essential for the reader to be aware of how the research developed and the intention behind the initial phase of data collection. As the researcher, I am familiar with the space I am investigating, and as such, the possibility of bias must not only be accounted for but recognised as an asset that acts to enhance the transparency of researcher bias and add integrity to the research process.

4.4 Methodology

This study explored the experiences of teachers working in their natural teaching environment and the impact that cognitive load and affect had on their decisions in this environment. Within this context a paradigmatic conundrum surfaced, as the study required an approach that provided interpretation of the lived stories of participants across fields that were ground historically in paradigms of positivism (cognitive load and automaticity in decision-making).

The design addressed the contradictions between dominant contemporary paradigms of positivists, interpretivists, and pragmatists by incorporating elements of each into the data collection and methods of analysis to obtain the validity and reliability of the research. No one dominate paradigm could provide the depth of understanding required when associating the concepts of cognitive load, automaticity of practice, and the lived stories of teachers in their teaching practices. For example, in the areas of cognitive load and automaticity, research is typically concerned with cognitive architecture, information processing and forms of artificial intelligence, all of which are divergent lines of inquiry to the area under study, that of how teachers make daily decisions in their classroom practice.

Therefore, while a positivist paradigm could be thought to be the best overarching approach, it was not sufficient due to a reliance on the measurable and known realities that such research aims to validate. The methods of triangulation in data analysis were however included to improve the validity of this research and combat any bias in data interpretation across interviews, observations, and survey data.

Therefore, a paradigm of realism orientated the thinking and reasoning through a qualitative approach as a suitable option for this research. Following the philosophical assumption of social constructivism (Armstrong, 2019), the methodological design was based through an interpretivist inquiry (Pham, 2018). Interpretivist inquiry is a sociological approach that emphasises the need to understand or interpret the beliefs, motives, and reasons of participants to understand social reality. Figure 4.1 identifies the paradigm, underpinning philosophical assumptions, methodological design, and the methods of data collection that contributed to the alignment of this research theoretical framework.

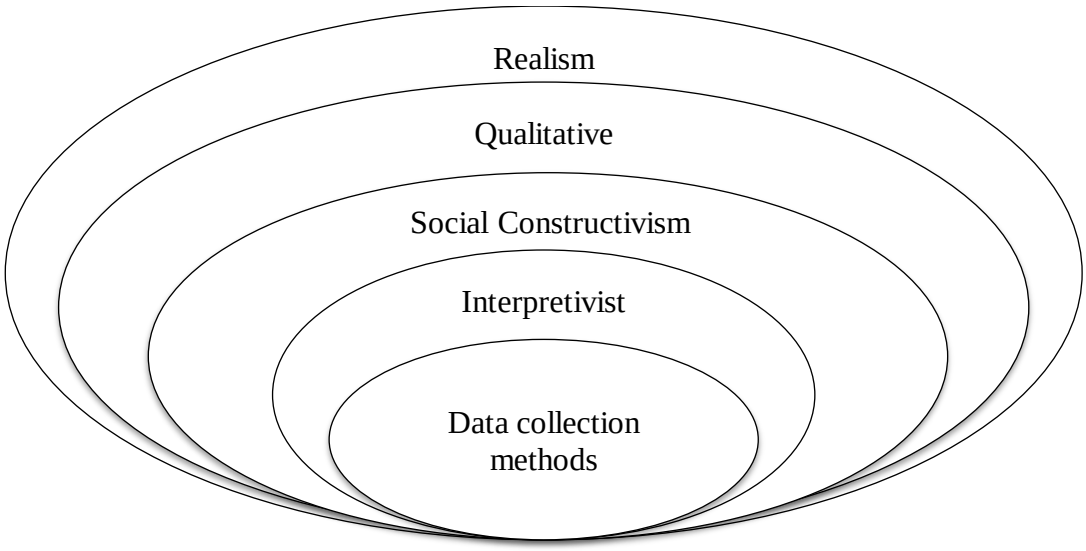


Figure 4. 1. Theoretical framework for the research

The paradigms of realism and relativism represent two polarised perspectives on a continuum between objective reality at one end and multiple realities on the other (Hammersley, 2002). Realism was defined by Phillips (1987) as "the view that entities exist independently of being perceived, or independently of our theories about them"(p.205). Relativism suggests that there is no absolute for human beliefs, human behaviours, and ethics (Allen, 2017). Relativists claim that humans understand and evaluate beliefs and behaviours only in terms of, for example, their historical or cultural context. As such, relativist research would fail to offer in-depth understandings of the social phenomenon that exists within a classroom, because it treats these settings as objects of science, denying the meaning and creation of interactions and the humans themselves within these settings. Realism supports the philosophical assumptions of social constructivism and can interpret individual views of the world through language and culture (Pfadenhauer & Knoblauch, 2018).

A qualitative study is appropriate when the goal of the research is to explain a phenomenon by relying on the perception of a person's experience in the situation under study (Creswell & Creswell, 2017). Qualitative research, through the lens of social constructivism, uses a naturalistic approach that enables the researcher to better understand the phenomena of teacher decision-making within the classroom where they occur. Naturalistic approaches are an approach to sociological research that assumes that there are multiple views of reality influenced by the social context and environment in which a situation is viewed (Hennink, Hutter, & Bailey, 2020). As stated by Patton (2014), studies

pertaining to phenomenon of realism or study that occurs within real-world settings, the researcher does not attempt to manipulate the phenomena of interest.

Language and culture are informed by context and in this study social constructivism provided for opportunities of social interaction within the research context (Armstrong, 2019). The shared experiences of teachers, working in their natural teaching environments, addressed the research questions through an iterative process. Themes and categories were developed as the study progressed based on the lived stories of the participants. One of the key elements of the methodological design through interviews and observations was to enable observation of participant behaviours during their teaching practices and the practices used in the student-teacher interactions within the classroom environment. Through interpretivism, it is understood how members (teachers) of a social group (education), through their participation in social processes (teaching), enact their realities and give them meaning (Pham, 2018).

To study any phenomenon, it is relevant to understand the ontological and epistemological perspectives from which the research is viewed. Ontology refers to what sort of things exist in the social world and the assumptions about the form and nature of that reality (Flick, 2018a). While epistemology is concerned with the nature of knowledge and the ways of knowing and learning about the reality, such as positivism or interpretivism (Pham, 2018). The ontology and epistemology that influenced this research design accepted that knowledge is not static, but rather emergent and transforming (Baltag, Boddy, & Smets, 2018), which meant that no single dominate contemporary paradigm was situated to interpret and understand the lived experiences (interpretivism and social constructivism) of a phenomena (pragmatism) based on cognitive load and automatic in decision-making (historically researched through positivism). This paradigmatic conundrum was addressed through a deliberate shift away from positivism in the epistemological and ontological choices of this study. Both will be discussed in the following sections.

4.4.1 Ontological orientation

A relativist ontology informed this research, based on the philosophy that reality is constructed within the human mind, and a belief that no single reality exists. The context in which decisions are made is impacted by the decision-maker themselves seeking to understand the happenings within the classroom and the elements that influence teacher decision-making. The reality of teaching practices and the elements that influence that

practice are relative to the individual decision-maker, according to how the individuals involved experience the situation at any given time and place. It was important to distinguish between the paradigms of realism and relativism in the research design. This study aimed to engage in research that probed for a deeper understanding of the rich individualised experiences through the recall of the events themselves (Schwandt, 1994), rather than examining surface or observational features of classroom teachers in isolation.

4.4.2 Epistemological orientation

The world is interpreted through the classification schemas of the mind (James, 2013), and in terms of epistemology, interpretivism is closely aligned with social constructivism. To better understand the trustworthiness, scope, and methods of acquiring knowledge in this research, the relationship amongst participants and the concepts included in this study, these aims were best met through the lens of social constructivism (Hay, 2016). As a sociological theory of knowledge, social constructivism views human development as socially situated, and knowledge as being constructed through the interactions with others (Armstrong, 2019). From the philosophical assumptions available for research, social constructivism best situated the researcher to understand the decision-making of teachers in their teaching practices. Due to the value of the lived stories of participants, and the need to include and analyse participants views of, and interactions in their natural settings, reality is seen according to how individual teachers experienced the act of teaching itself, at any given time and place.

Social constructivism acknowledges that reality is changing, whether the observer wishes it to or not (Creswell, 2013), and that change is an indication of multiple or possibly diverse constructions of reality between people and events. Social constructivism values multiple realities that people have in their minds, and for this study, the researcher needed to capture that multitude of diverse historical and personal views that influence teacher choices and decision-making in their classroom. Social constructivists believe that individuals seek understanding of the world in which they work and live, as active participants of the construction of that knowledge (Creswell, 2014). Participants develop subjective meanings of their own experiences. The experience of teaching is personal and full of diverse values and opinions that are essential to capture in the research design. A social constructivist approach provided the framework through which an interpretivist inquiry endorsed broad questioning of how teachers make classroom decisions and what influences those decisions.

4.5 Method of research design

In researching the elements that influence teacher decision-making, an interpretive inquiry method was required. Interpretivism involves an awareness of the researcher's perspective to understand the elements of the study, to integrate the human interest into the study, and to appreciate the differences that exist among people (Pham, 2018). In such research, cognitive elements of meaning, beliefs and intentions are pivotal (Schwandt, 1994). Interpretivism was ideally placed in this research to accommodate the contextual nature of the data collection for this study. Merriam (2009) stated that "interpretive researcher assumes that access to reality (given or socially constructed) is only through social constructions such as language, consciousness, shared meanings, and instruments" (p.38). This view supports and provides the essential components informing the method of research design.

Such a cognitive orientation is also emphasised when the investigation intends to understand the views of the participants' social world and their role within it (Goldkuhl, 2012). While the natural sciences seek consistencies in the data to deduce laws, the social sciences deal with the actions of the individual to construct meaning, including aspects that are unique, individualised, and qualitative (Hennink et al., 2020). In the case of teaching, the social world does not exist without consideration of the classroom where teaching occurs. Thus, within the social constructivism approach and using an interpretivist inquiry the selection of the design methods to investigate the phenomenon of teaching were complementary.

4.5.1 Design phases

It is important in any study that the design method selected is equipped to address the research questions (Hennink et al., 2020). To capture this complexity, the study required two phases with multiple points in time for data collection, to ensure the lived stories of the participants were recorded and evidenced in practice. The two phases were: to capture the lived experiences of eight secondary school teachers through interviews and observations; and then more broadly, school-teachers' classroom practices using a larger sample size as presented in Table 4.1.

Table 4.1 Data Collection

Phase	Data collection method
One	- Initial interview with eight participants from Groups I and II (four in each group) - Classroom observations and post-lesson discussions with both groups
	Participation in the Classroom Profile training in the use of the Classroom Profile tool for Group II participants only
	- Classroom observations and post-lesson discussions with both groups - Second interviews with both groups
	Development of Four Dimensions framework and delivery of professional learning program
Two	- Twenty question survey based on findings from Phase One

In the first phase of the study, data were collected from two separate groups of participants. Groups I and II were similar in all aspects of the study, except for involvement in the Classroom Profile training, of which only teachers in Group II participated. The data were collected through: a pre-interview of 20-minutes in duration; two classroom observations of 30-minutes each using the Classroom Profile tool (Department of Education Training and the Arts, 2015a), and a post-interview of 20-minutes. In this first phase the research design offered a robust framework necessary to achieve *thick descriptions* of the phenomena, and enabled teacher decisions to be described and compared to provide insight into the issue (Creswell, 2014). Stake (2013) recommended that writing using *thick descriptions* encouraged the reader to enter the research context for a deep transfer of knowledge. For this study, *thick description* was used to characterise the process of paying attention to contextual detail when interpreting social meaning from the participants' interviews and observations. The stories shared provided insight into participants' views, ideas, and actions in classroom behaviour management practices.

From the first phase, themes emerged that gave reason to question the Classroom Profile tool, and highlighted changes to the training and the inclusion of knowledge and skills that would benefit teaching practices. As the research progressed and the themes emerged from Phase One, the new training workshop was developed as the Four Dimensions framework and professional learning program. Further ethics approval was obtained for the inclusion of a survey for further data collection in Phase Two. The online survey collected teacher responses to a set of 20-questions (Appendix B). To be explicit, the focus of this second phase was narrowed to identify what elements influenced the thinking behind teachers' decision-making in classrooms.

It was recognised from the literature that decision-making is an individualised process (Langewitz, 2020). The findings from the data collected in Phase One supported that the outcomes of teacher-student interactions are the result of a teacher's decision-making process based on an individualised assessment and response to any situation. This response varies from person to person, and as such, teacher to teacher, and it is this individualised nature of the decision-making process that was captured in this phase of the study. The next section discusses the data collection tools.

4.6 Data collection tools

The combination of semi-structured interviews, followed by classroom observations, and an online survey was deemed to be the most appropriate design method to collect data for this study. Data were collected to address the research questions and identify themes and issues surrounding the lived stories of teachers in their classroom practice. The data collected through interviews and observations met the objective of the study to illustrate the rich stories of the participants. The survey in Phase Two provided descriptive statistics as additional data, informed through the Phase One themes, to interpret and understand the phenomenon of teacher decision-making through this qualitative study.

4.6.2 Semi-structured interviews

Interviews are a method of collecting information from selected participants through asking questions to find out about what they do and how they think (King, Horrocks, & Brooks, 2018). Under an interpretivist inquiry, interviews seek to explore data on understandings, opinions, what people remember doing, attitudes and feelings that people have in common (Angotti & Kaler, 2013) and will be unstructured or semi-structured (Brinkmann & Kvale, 2015). Within this research, semi-structured interviews were conducted, whereby participants were encouraged to talk about specific topics. The six questions were based around three topics on participant preparedness for classroom behaviour management, the strategies they used and what made a difference to their classroom practices.

Probing questions formed an important part of the interview process, with a further set of 13 sub-questions to provide participants with the opportunity to elaborate on statements they made that were related to the study (Appendix A). The semi-structured design of questioning provided room for unanticipated questions to emerge during the interview,

dependent on the participants' given responses. Group II participants were asked a further three questions, to investigate their learnings from the three-day Classroom Profile training they attended.

Interview data were collected at two specific points in time to establish similarities and differences in teacher language patterns to describe their lived stories in classroom behaviour management. This study did not aim to explore the ethical dimensions of teacher decision-making, nor develop a step-by-step description for teachers when making a classroom-based decision. Rather, by describing the influences on teacher decision-making, in classroom behaviour management, the research sought to map and explain the influences on the decision-making process that impact teacher-student interactions in classrooms.

As with all data collection methods, interviews have potential limitations which the researcher must be aware of and consider in the research design. One such problem which can occur is social desirability bias, whereby participants will answer in the way they feel the researcher would like them to (Brinkmann & Kvale, 2015), or with concern for their position. Inclusion of anonymity in this research and in the findings, with clarification of the purpose of the research, addressed such bias in this study. Themes emerged from the data that was able to compare what the participants shared about their practice with what was observed in their practice.

4.6.3 Classroom observations

Adler and Adler (1994) characterised observations as the "fundamental base of all research methods" in the social and behavioural sciences (p.389). Observation in qualitative research involves data collection using the senses, especially looking and listening in a systematic and meaningful way (Miles, Huberman, & Saldana, 2014). Observations were used in this research to provide data on differences and similarities between what participants said was occurring in their daily practice and what was observed by an independent observer. Observation plays a key role in providing information about teaching practices, both as a research method and as part of teachers' ongoing learning and continuous improvement of practice (Klette & Blikstad-Balas, 2018).

The 2015 version of the Classroom Profile is included in Appendices L and M (Department of Education Training and the Arts, 2015b) was used to collect evidence on teaching practices through classroom observations. The initial observation provided baseline data to establish the practices teachers used in their classroom before any professional

learning took place. The data collated from these observations provided a valuable data set to triangulate with interviews and survey data across the course of the study. After the data were coded and analysed, it was considered that further research was required to validate the stories and practices observed in classrooms.

Classroom observations were conducted for 30-35 minutes, using the Classroom Profile. The Classroom Profile is an A3 document that was developed by a team of teachers in the Department of Education Queensland, consisting of two parts: lesson flow and lesson frequency. The lesson flow collects evidence of entry and exit procedures (students entering and exiting the classroom), behaviour expectations and the activities delivered by the teacher. The second part of the sheet, the lesson frequency, records the strategies used by a teacher in response to manage classroom behaviours. Mark Davidson led the development of the Classroom Profile over 20 years based on the Essential Skills for Classroom Management (Department of Education and the Arts Queensland, 1996) and his own personal experiences in teaching practices. The Classroom Profile is a classroom observation tool developed from the concern that "kids are behaviour problems with no motivation, no interest and a lack of social skills, especially manners" (Department of Education Training and the Arts, 2015a, p. 9). No empirical studies were found throughout the literature reviewed on the impact this program has had on teacher decision-making in teaching practice. The limited studies and reviews of the effectiveness of Classroom Profiling extended to benefits to pre-service teachers through the development of a common language in an article by Jackson, Simoncini, and Davidson (2013). The Classroom Profile program was chosen due to its use across Queensland state schools and its development around the Essential Skills of Classroom Management.

4.6.4 Survey

Surveys provide information that may not have considered or uncovered in other forms of the research design. They are a tool to add data to a research design when the researcher already has an idea of the participants' thoughts and beliefs, and are looking to further verify the context in which the data exists. Check and Schutt (2012) defined survey research as "the collection of information from a sample of individuals through their responses to questions" (p.160). This type of research allows for an increased variety of methods to recruit participants, collect data, and utilise various methods of instrumentation.

To put a survey instrument into context, designing a survey when you are unaware of a group's general attitudes, opinions, or even words they use to describe your topic is similar to walking across a street blindfolded: you know where you want to go, but it's dangerous to start your journey without investigating the landscape first. The first phase of the research found data themes that needed further investigation and these themes provided the guidance for the design and final survey instrument.

The survey consisted of twenty questions using several questioning techniques. Likert scale type questions were combined with a selection of short answer and open text format to provide a participant with areas for detail and personal recounts. The survey looked to compare teachers' ability to recall and use the new Four Dimensions observation sheet, compared to the original Classroom profile. The intent was not to discredit or question the original product, but to find the strengths in the tool and build on these to create a new and improved observation tool for teaching practices if necessary. The survey asked questions that were to inform the researcher on the ease of recall, use, and application of the underlying concepts that each tool was built on. For the Classroom Profile this is reflected in the Essential Skills of Classroom management (ESCM). For the Four Dimensions observation sheet this is founded on the research of this study and the development of Four Dimensions.

Through open-ended survey questions, participants were able to provide unique answers (as opposed to providing a list of predetermined responses to select from) to further understand the study. This approach gave participants the freedom to say exactly how they felt, providing exploratory data that revealed unforeseen opportunities, issues, and quotes around the research questions. It is these quotes and personal examples of participants that create more powerful statements than many averages and percentages. To ensure survey bias was reduced, it was developed in conjunction with support from the statistical unit at the University of Southern Queensland. The 20 questions are provided in Appendix C.

4.7 Research protocols and participants

In 2015, the year before the data collection period for this study, 1236 state government schools were operating in Queensland with 525 independent and catholic schools. This number has increased in 2020 to a total of 1249 of which 920 were primary schools (Prep-Year Seven), 92 were Prep-10/12 and 45 special schools (Year 1- 12) and 191 were secondary schools (Year 8-12). The volume of data expected from the interviews, reports,

and document analysis indicated a maximum of eight participants would be sufficient to explore the themes influencing teacher decision-making in classrooms (Dworkin, 2012).

The purposive sampling strategy (Etikan, Musa, & Alkassim, 2016)—seeking teachers in low socioeconomic state high schools—is discussed in more detail in the Participants section. Participation was sought from eight state secondary school teachers. Twenty-eight email invitations to participate were issued, with follow up phone calls to introduce the research and clarify any questions potential participants held. A total of eleven teachers agreed to assist with the research, of these eleven three were eliminated using a random withdrawal method, based on their experience in teaching, gender or age as the research intended to be representative of teachers and not a specific demographic of teacher. This reduced sample size ensured the amount of data gathered was manageable for the purpose and scope of the research project, and yet sufficiently diverse to draw out possible patterns and themes across different school contexts (Collins & Stockton, 2018). It is important to note that the participation of these teachers was not intended to be representative or indicative of school sites with vulnerable student populations; rather they were intended to serve only as a source of data from which to gather information about decision-making process related to teaching practices.

4.7.2 Recruitment procedures

The themes and trends uncovered through the use of a smaller sample of subjects allows inferences to be made to larger populations based on the findings from that smaller one, as argued by Berg, Lune, and Lune (2004). In this research the sample size of eight teachers in Phase I, provided the ability for in depth conversations that could be transferred to understanding the same phenomenon across teachers as a group. No steadfast rules exist for determining sample size in a qualitative study; however, the sample needs to be small enough to ensure depth of lived stories, and broad enough to cater for possible differences between members of the sample Creswell (2014). Purposive sampling was used to identify and select samples to increase the scope of teaching demographics with an effort made to include both male and female participants across a range of years of experience, gender, and content areas (Etikan et al., 2016).

The benefit of purposive sampling to this research was that it used “sampling in a deliberate way, with some purpose or focus in mind” (Patton, 2007, p. 240). According to Patton (2007), this strategy provides a focus on selecting information-rich cases whose study

would illuminate the research questions. In this sampling strategy, the researcher's knowledge and expertise about the group help significantly in selecting participants who represent the study population. With twenty years of teaching experience and ten years' experience in human resource management at schools, the researcher was well situated to select participants for the sample.

4.7.3 Participants

Participants came from two regional schools in Queensland with low ICSEA rankings. Low ICSEA rankings are associated with increased suspension rates, behaviour disruptions and lower curriculum performances of students. Through purposive sampling (Tracy, 2019) teachers were selected, divided based on the selection criteria and then randomly assigned to one of the two groups as shown in Table 4.2. Only Group II accessed the professional learning program for the data collection phase of this study. All participants were able to access the professional learning program within twelve months of the start of this study. The study used pseudonyms to ensure participant anonymity.

Table 4. 2 Research participants and pseudonyms

	Teacher Pseudonym	Content Areas	Teaching Experience	Category of Experience School 1 or 2 (SC1/SC2)
Group I	Indra	Science	2	Beginning teacher SC1
	Nick	Arts	12	Experienced teacher SC1
	Greta	Humanities	1	Beginning teacher SC2
	Pam	English	27	Experienced teacher SC2
Group II	Leila	Arts	2	Beginning teacher SC1
	Brett	Humanities	27	Experienced teacher SC1
	Mandy	English	3	Beginning teacher SC2
	Rob	English	12	Experienced teacher SC2

Both Group I and II completed interviews and observations to establish differences in school-based changes, policy changes, teacher training or demographic influences that may alter the results. With each classroom observation a teacher post-lesson reflection session occurred, of which was taped for later transcription. Teachers in Group II went on to participate in the professional learning in the Classroom Profile program.

4.8 Data analysis

Qualitative data analysis has been described as the central step in qualitative research (Freeman, 2020). Interpretation is a key component of qualitative research and without it, sense cannot be made or derived with true meaning from the data (Hennink et al., 2020). Through semi-structured interviews and classroom observations, an examination of each teacher decision in the context of the classroom was made possible providing a consistent structure to facilitate comparisons among teachers. A comprehensive description of each interview and classroom observation, investigating the actions used by teachers in classroom management practices, and the elements that these teachers believed had the greatest influence over their decisions required a thorough review of all data sources collected.

All data records were read through in their entirety, to begin with, to establish a general sense of the data through thematic analysis (Brinkmann & Kvale, 2015). Thematic analysis refers to the process of identifying themes in the data which capture meaning that is relevant to the research question and identify patterns in the data (Braun, Clarke, & Gray, 2017). The thematic analysis provided a flexible research tool, providing a rich account of data (Creswell, 2014). The first step of the analysis for this study was conducted manually, using the Classroom Profile as the first-level filter to organise information into groups: 1. Positive feedback; 2. Supportive Teacher practices; 3. Reactive teacher practices; 4. Emotional teacher practices; and 5. Student behaviours. This was done using Post-It Notes® and a wall display to aid visual analysis and organisation of data (Castleberry & Nolen, 2018).

Once groups were established from this initial data analysis, it was then captured electronically using NVivo to facilitate easy reorganisation as analysis progressed and themes emerged from the data (Edhlund & McDougall, 2019). Interview and observation data were then further explored to identify recurring words, ideas and topics, and coded into temporary categories using a word or phrase to describe the groupings (Freeman, 2020). The Classroom Profile provided the starting point to code data and begin the search for themes and commonalities among participants.

4.8.2 Coding

Coding can be categorised as inductive or deductive. Inductive reasoning moves from specific observations to broad generalisations, and deductive reasoning moves from broad generalisations to specific theories (Bernard, Wutich, & Ryan, 2016). This study utilised both forms of coding. Data extracts emanated from the transcribed data rather than from a

developed *a priori* template of codes that were constructed to form expected answers to the research questions (Syam, Rybalcenko, Gaio, Crabtree, & Leach, 2019). The qualitative data in this research were analysed to identify categories, themes, patterns, and relationships. Inductive analysis is a method of coding the data without trying to fit it into a pre-existing coding or research question driven framework (Bloomberg & Volpe, 2018).

Subsequently, thematic coding was completed, using both deductive and inductive coding. The first coding identified key categories using a descriptive coding approach based on initial interviews of teacher's personal beliefs. This was followed by a second round of coding that identified themes, patterns, and constructs within the first set of categories. This scrutiny allowed for further analysis and interpretation of the data sets, independently and comparatively (Castleberry & Nolen, 2018). The data set had become quite large, covering interviews, teacher observations, teacher post-lesson reflection sessions, and interviews after professional learning programs were undertaken. To better understand the relationships between each of these data sets, triangulation of data provided a source of comparison for likeness and differences between stories (Flick, 2018b).

4.8.3 NVivo use

A computer-assisted qualitative data analysis software, NVivo X9.3.2, was used as an electronic aid in the data management and analysis process. The software was used to query keywords in context (Luhn, 1960) for comparison with manually coded categories and themes. Key words in context (KWIC) provide a valuable asset to data analysis in finding commonalities across participants use of language to describe their experiences (Brinkmann & Kvale, 2015). NVivo was not used as a primary coding source and was applied to the data in the context of solidifying themes and initial coding after hand coding by the researcher. The research process was led by the researcher, not by supporting software (Jackson & Bazeley, 2019). The software was useful as a repository and for sorting through data (Tracy, 2019).

Thematic coding of the data enabled the application of codes as a means of clustering data related to similar ideas and categories. Miles et al. (2014) stated that coding is an analysis, and while coding serves to condense data, it also provides a degree of discovery as new themes emerge and patterns form. The creation of codes necessitates the detail reading and understanding of the written narratives and through this reading and reflection, the meaning is conveyed and further questioned.

From an analysis of this data, the language patterns, and perceptions of participants throughout the investigation were seen to change. The research method stimulated recall to track teachers' thinking on individual decisions made in response to student actions in the classroom. Coding of the interview transcripts was completed using NVivo software to interpret the data through language choices of positive and negative affect. NVivo provided the support necessary to sort themes found in literal speech patterns, language, and responses to interview questions.

The groupings of teacher practices, from the Classroom Profile (Department of Education Training and the Arts, 2015b), were used to organise the interview and observation data into themes and provide the basis for the initial analysis and discussion (Silverman, 2016). The observations were conducted using the Classroom Profile as the data collection tool, with guided and specific definitions given to the observers for data to be collected against each of the items.

4.8.4 Triangulation of data

Triangulation is a strategy for improving the validity and reliability of research or evaluation of findings (Flick, 2004). Guion, Diehl, and McDonald (2011), elaborated by stating that triangulation has risen as an important methodological issue in naturalistic and qualitative approaches to evaluation to control bias. Furthermore, Patton (1999) advocated the use of triangulation as beneficial to both validity and reliability of the research.

In this study, triangulation was achieved using two observers to collect observational data, method design, and multiple data sources to record that the construction of reality was accurate. The design of two interviews and two classroom observations provided the researcher with multiple methods to induce meaning (Guion et al., 2011). The twenty-question survey, from the second phase of the research, provided an additional source to triangulate data by providing an anonymous form of data collection, which, through its manner of collection increased the likelihood of true responses free from confirmation bias (Leech & Onwuegbuzie, 2007). The use of multiple methods of data collection through observation, interviews, and survey led to an increased validity, reliability, and diversity in the construction of participants' realities. In this research, the use of data triangulation provided information on multiple data sources to build conclusions.

4.9 Validity

The issue of validity is identified as a criterion by which observation data can be judged. Mayan (2016) refers to construct validity and internal validity. Construct validity, for this research, was addressed through the collection and use of multiple sources of data and the use of external (supervisors and critical friends) to review drafts, analyse findings, and provide feedback to the researcher. Internal validity was more concerning, as the intent of the research was its descriptive nature without looking for causal relationships between factors and events.

Guion et al. (2011) acknowledged the innately fluid nature of qualitative research and its impact on the provision of reasonable internal validity, nominating triangulation, participant checking, peer judgement and long-term observation as practices to strengthen this area of concern. Data triangulation, participant checking, and peer judgement were applied in this research, however, due to time constraints, longitudinal data collection in classroom observations were not employed. The use of multiple schools and case design for this study contributed to the external validity of the research.

4.9.2 Reflexivity in research

Qualitative researchers engaged in contemporary practice accept that the researcher is a central figure to the research process (Kozleski, 2017). The researcher influences—if not actively constructs—collection, selection and the interpretation of data (Pillow, 2015). As such the research is co-constructed, a joint product of the participants, researcher and their relationship (Finlay, 2002). In this research, the impact of reflexivity was considered in both interviews and observational methodologies. It is understood that meanings are negotiated within particular social contexts so that another researcher could find a different story; reflexivity is not discussed here with the intention to eradicate the researcher's presence but rather to acknowledge that subjectivity in research is transformed from a problem to an opportunity (Berger, 2015). Understanding the role of the observer (the researcher) was an essential part of this qualitative study. Finlay (2002) warned that the researcher "treads a cliff edge where it is all too easy to fall into an infinite regress of excessive self-analysis at the expense of focusing on the research participants" (p. 532). Therefore, it is necessary to acknowledge and account for areas of impact from the researcher without the need to over-analyse this interaction at the expense of the participants and their lived stories. The two areas to consider reflexivity are those of interviews and observations.

In the process of interviewing, Button and Lee (1987) explained that "data is naturally occurring in conversation as a feature of social life, and the use of tape-recordings and transcripts is a practical strategy for apprehending it, and making it available for extended analysis" (p. 9). To minimise the impact of reflexivity in the transition from the event to the object, interviews were transcribed by a third-party external to the research itself, ensuring a level of distance by the researcher from the event to the creation of the material for ongoing analysis. Removed from the emotional flow of the interview and with no interest in the outcomes of the interview questions, a third party provided transcripts that ensured that bias was removed from interpretations made by the researcher through transcription bias.

Regarding the process of observations Mills, Bonner, and Francis (2006) emphasised that it is precisely the interaction that creates the data that will emerge from the inquiry. To minimise the impact of reflexivity, the observations were conducted by two observers. The second observer was an experienced classroom teacher, trained in Classroom Profiling. Participants were allocated to observers based on their locations, and observations were conducted separately with no discussion about results for interpretation. This increased the likelihood that the researcher would see the data for its numerical and anecdotal worth without subjective interpretation attached.

4.9.3 Researcher bias in a qualitative study

Further to reflexivity, as previously discussed, consideration in interpreting results needed to be done with care in the areas of bias that were possible through this qualitative research using interviews, observations, and surveys. Researchers have an ethical duty to outline the limitations of studies and account for potential sources of bias. Bias includes any trend or deviation from the truth in data collection, data analysis, interpretation and publication which can cause false conclusions. Bias can occur either intentionally or unintentionally (Simundic, 2013).

Understanding research bias is important and although bias exists in all study designs, researchers should attempt to minimise bias. Outlining potential sources of bias enables greater critical evaluation of the research findings and conclusions. Bias in qualitative research can be minimised if one knows what to look for and how to manage it (Arias-Bolzmann et al., 2018). It was necessary, that awareness of bias and consideration of the impact on the research be a point of focus at all phases of the research.

Confirmation bias occurs when the researcher forms a hypothesis or belief and uses respondents' information to confirm that belief (Simundic, 2013). With the analysis of interviews and observations, the interpretation of the data needed to ensure transparency in coding. All responses were weighted equally in the research and delivery of results. To minimise the chance of confirmation bias, the researcher continually re-evaluated themes and impressions of participants, and challenged at key junctures the pre-existing assumptions and hypotheses held of the research.

In the interviews and surveys, questions were used to gain participant views and information. In consideration of how the ability of one question can influence answers to subsequent questions, awareness of question-order bias was important. While question-order bias is sometimes unavoidable, asking general questions before specific, unaided before aided and positive before negative (Brinkmann & Kvale, 2015) minimised the likelihood of bias in this research. A further step was employed, where an external statistician supported the design and order of questions to reduce the researcher unknowingly leading participants in any way through the questioning.

Consideration was also given to the impact of sampling bias. Phase One of the research was based on the purposive sample of state-school teachers in high schools with students aged between 12 to 18 years, in grades 7 to 12. The concern of sampling bias is the limitation to the generalisability or external validity of the research to be applied to the entire population of teachers in Phase I of the research. Phase Two of the research was without sampling bias as the survey was made available to all teachers in any demographic or school context. All schools who had had staff trained in Four Dimension were offered the opportunity to participate in the survey.

To reduce researcher bias, qualitative researchers must demonstrate rigour, associated with openness, relevance to practice and congruence of the methodological approach. Although other researchers may interpret the data differently, appreciating and understanding how the themes were developed is an essential part of demonstrating the robustness of the findings (Castleberry & Nolen, 2018). To reduce bias in this form, the researcher included in the research design of this study: respondent validation; constant comparisons across participant accounts; representation of outliers; independent analysis of the data by other researchers and triangulation. The next section will review the analysis of data and how the design of the research supported data trustworthiness.

4.9.4 Trustworthiness

To be accepted as trustworthy, this qualitative research included processes, in regard to data interpretation, that demonstrated that the analysis of the data had been conducted in a precise, consistent, and exhaustive manner. This process was reflected in the data collection, the recording, coding, and disclosing the methods of analysis with enough detail to enable the reader to be confident of a credible process (Leech & Onwuegbuzie, 2007). The role of the research and subjectivity or bias in this research was a valid concern, particularly in my professional and personal history in advocating for access to educational opportunities for students with behaviour issues.

No person can be completely objective in their work around complex social issues (Mayan, 2016). It is, however, reasonable to expect subjectivity be managed—as such, this consideration has been addressed in this study with the use of a researcher journal and regular discussions and reflection with supervisors and colleagues about the research and emerging ideas. The findings of the research and analysis emerging from the research represent the researchers' experience and perspectives and do not claim to represent the views or positions of all teachers in Queensland state schools in Australia. The small sample size for interviews and observations do not lend the findings to be used in generalised claims, however, this was stated at the onset and was not an aim of the research. The trustworthiness of this study was heavily dependent on the rapport established with the participants.

4.10 Ethics

The inclusion of ethical considerations in any research is to ensure participants and the researcher are not put at risk of harm through their participation in the research. Teaching is a high-pressured occupation and teachers can have feelings of distrust to observations regarding their practice should it be used to judge their practice. Adhering to Standards of practice and Departmental codes of conduct, in which confidentiality and non-judgemental reflections are a priority, the ethical standards of this study were reinforced. In this, though, is the consideration that by the mere purpose of observation to inform practice, the intent is to influence a change of that practice (Mogashoa, 2014). As professional learning programs inherently involve the goal of influencing participants' thinking and subsequent practice, ethical considerations were made transparent. If influence is exerted with deception or manipulation, it harms participants as it robs them of the chance to reflect and make choices of their own volition. Accordingly, ethical considerations included the anonymity of

participants and a commitment to confidential handling of all data throughout research design.

4.10.2 Site access and permission

A human research ethics application was prepared in line with the requirements of the *National Statement of Ethical Conduct in Human Research.* The research proposal was outlined, including potential risks and benefits, participant overview and consent arrangements through the negligible low-risk ethics application process. Ethics for Phase One of the research Approval Certificate was issued on 12 February 2016, with Phase Two Ethics Approval Certificate was issued on 26 September 2019. The Department of Education, Training and The Arts had also established research protocols for those conducting research with staff or on state schooling sites. *The Guidelines for Conducting Research on Departmental Sites* required researchers seeking access to schools in more than one geographical region applies to the central office for approval to conduct the study. Approval was received on November 9, 2016 (Appendix C). The Department of Education and Training Research Services division supplied a Form letter to accompany invitations to participate, a copy of this is included in Appendix D.

4.10.3 Informed consent

Email invitations were sent to teachers at state secondary schools selected using the criteria established and accompanied by the introduction letter supplied by the Department of Education and Training Research Services Division. For Phase I the Participant Information for Monash Research Project including the Consent Form is shared in Appendix E. A copy of the Human Ethics Approval Certificate is available for Phase One in Appendix F and Phase Two in Appendix G.

Teachers who expressed interest in the study after receiving the invitation to participate email were contacted by phone and offered a brief verbal overview of the purpose of the study, management of the data and confidentiality provisions. All participation was voluntary, and participants were reminded of their ability to withdraw consent during the interview and again when transcripts of the interviews were made available to each. Consent for the survey was obtained through online invitations that went out to all participants who had completed training in Four Dimensions in the years 2019 and 2020.

4.10.4 Anonymity

The privacy and confidentiality of participants and their data were a prime consideration through all stages of the research. The use of pseudonyms was applied to all written documentation where schools, participants or students were referred to by name through interviews, observations, and reflection sessions. While survey data were collected under complete anonymity with participants offered the opportunity to provide their name and details in the final question, should the wish to withdraw consent at any time during the research.

4.10.5 Management of data

All digital recordings, transcripts and notes of interviews, observations and surveys are stored in a locked filing cabinet at the home of the researcher, and electronic records are password protected and saved on an external hard drive also located at the home of the researcher. The only person with access to the filing cabinet and the computer drives is the researcher.

4.11 Chapter summary

This chapter has outlined the research context, theoretical paradigms, and research methodology. A brief outline of the research progress at each stage was described. Data generation methods and analysis processes employed during the research have been presented to situate the research. Finally, ethical consideration was explored to ensure the management of any risk of harm to all participants and researcher. The following chapters present the findings and discussion concerning the key research questions in the form of three journal publications, and a chapter that shares the developmental stages of the Four Dimensions professional learning program. The next chapter presents the published journal article, which was focussed on the influence of cognitive load and affect on teacher decision-making.

CHAPTER 5 FINDINGS AND DISCUSSION PART A

If we don't address the language, we use by default then we risk the greatest inconsistency of all: managing poor behaviour with improvised responses. (Dix, 2017)

Journal article I: Journal of Education for Teaching (2021)

Blackley, C., Redmond, P., & Peel, K. (2021). Teacher decision-making in the classroom: The influence of cognitive load and teacher affect. *Journal of Education for Teaching*, 1-14. Advanced online publication. doi:10.1080/02607476.2021.1902748

Routledge
Taylor & Francis Group

Journal of Education for Teaching
International research and pedagogy

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/cjet20

Teacher decision-making in the classroom: the influence of cognitive load and teacher affect

Caroline Blackley, Petrea Redmond & Karen Peel

To cite this article: Caroline Blackley, Petrea Redmond & Karen Peel (2021) Teacher decision-making in the classroom: the influence of cognitive load and teacher affect, Journal of Education for Teaching, 47:4, 548-561, DOI: 10.1080/02607476.2021.1902748

To link to this article: https://doi.org/10.1080/02607476.2021.1902748

Published online: 20 Mar 2021.

JOURNAL OF EDUCATION FOR TEACHING
2021, VOL. 47, NO. 4, 548–561
https://doi.org/10.1080/02607476.2021.1902748

Routledge
Taylor & Francis Group

Teacher decision-making in the classroom: the influence of cognitive load and teacher affect

Caroline Blackley, Petrea Redmond and Karen Peel

ABSTRACT

In everyday classroom situations, teacher decisions are influenced by cognitive load and affect. Cognitive demands related to decision-making by teachers, and associated affect, influence future decisions, providing a juncture to change potential outcomes. Eight Australian Secondary teachers were selected for this qualitative study based on the variance in years of experience, gender, age and expertise across content areas. Interviews, classroom observations and reflection sessions revealed participants differed in the language they used when describing their process in making classroom decisions. Assertions from teachers, along with classroom observation data, showed an increased use in proactive teacher actions and reduced cognitive load in decision-making when decisions were made in a state of positive affect. Furthermore, teachers reported reduced negative affect when their initial response to unproductive student behaviour was to refer to their classroom expectations and/or acknowledge correct student behaviours, before addressing unproductive behaviours. Teacher reflections on using positive actions in classroom practices were consistent with reported reduced cognitive load and feelings of success. All teachers reported increased self-reflection while teaching due to increased awareness of available choices when making decisions. Reduced cognitive load, increased positive affect and improved awareness in available choices in classroom decisions leading to positive classroom environments.

ARTICLE HISTORY
Received 4 May 2020
Accepted 3 February 2021

KEYWORDS
Affect; cognitive load; classroom environment; decision-making; reflection

Introduction

The act of decision-making in a classroom is situated within the context of highly social environments founded in constant and complex human interactions. Decision-making is defined as the process of identifying a problem, gathering information and assessing alternative resolutions (Beach and Lipshitz 2017). The process and outcome of decisions made in a classroom are important, considering teachers are estimated to make a new decision every 15 seconds (Wittrock 1986). Decision-making requires different levels of cognition dependent on the complexity of the problem identified and the prior experiences in similar situations.

Previously conceived as *mental load* (Moray 1979), cognitive load was of interest throughout the literature with the development in research leading to Cognitive theory, a theory for describing cognition in learning (Chandler and Sweller 1991; Martin, 2014). Cognitive load is the volume of mental activities imposed on one's working memory

CONTACT Caroline Blackley q8839765@umail.usq.edu.au

(Sweller 2017), concerned with the immediate conscious processing of information. Cognitive load theory provided significant research into the application of cognitive load to the learning and instructional design of material. The application of this research to decision-making was less evident. The literature on decision-making demonstrated that cognitive load, along with affect, has potential influences on the choices observed when making a decision (Blanchette and Richards 2010).

Affect, in psychological terms, refers to the underlying experience of feeling, emotion or mood (Francis and Love 2020). A feeling is a sensation that has been reflected through previous experiences and labelled, for example, feeling cold or feeling angry. Moods are generalised feelings, lasting for extended periods, for example, a bad mood or a good mood (Guzak 2015). In contrast, emotions are immediate and responsive feelings in relation to a specific set of stimuli (LeBlanc, McConnell, and Monteiro 2015). Affect draws on all three and is more abstract in its application. Without affect feelings have no intensity, and 'without feelings rational decision-making becomes problematic (Spence 1995)'. The role of affect in decision-making is that it determines the relationship between our bodies, our environment, and others, and the subjective experience that we feel/think as affect informs our perceptions and beliefs of lived experiences.

Kant (2017) described a feeling as a state in which someone is conscious of that state of their perception, whereas affect is abstract and provides intensity to a feeling. However, a feeling cannot be incorporated in a cognition: it 'is merely subjective, whereas all other sensations can be used for cognition' (Kant 1999, 29). What this suggests is that prior experiences will inevitably influence cognition through affect rather than the feeling itself, impacting classroom environments. Classroom environments are an essential consideration in student learning outcomes, as they are comprised of interfaces that dependent on personality variable influence attitudes, motivation and levels of anxiety (Memari and Gholamshahi 2018). The research reflected that students learn better when they view the learning environment as positive and supportive (Sandilos, Rimm-Kaufman, and Cohen 2017). Such representation of teaching implies affect influences teacher effectiveness and the creation of positive classroom environments for learning (Jhang 2020).

The intersection of cognition, affect, and decision-making in the literature identified two potential limitations in the previous research to be addressed in the current study. In the field of decision-making in teaching practices, the literature is not conclusive in findings due to the nature of past research (Betsch et al. 2001b) and the organisational contexts of the research (Murray, Jaramillo, and Wang 2017). What this means is that the literature revealed that the majority of previous research involved college students in laboratory experiments and that these students responded to hypothetical scenarios (Betsch et al. 2001b). Studies that isolated specific factors and lacked the realism of actual teacher participants in the context of teaching itself. The studies found across the literature lacked the degree of complexity reflected in the reality of teacher decision-making within classroom environments.

Theoretical background

Historically, decision-making research focussed on the choices made in the dichotomous areas of probability, politics and mathematics (Buchanan and O Connell 2006). Such theories are situated in linear understandings of decision-making focused on outcomes

and predictions for future events (Fisher 1962; Rezaei 2016). Linear decision-making is positioned in cues from the world that the decision-maker weighs and then uses in their execution for future events (Srinivasan 2020). It uses previous situations to inform current and future decisions, meaning that some options may be eliminated quickly if they have no prior experiences attached to them. While this practice may reflect quick execution in choosing the final option, this process focusses on the prediction of future similar or dissimilar outcomes (Binder, Johansen, and Imsland 2019).

In contrast, it is the process rather than the outcome of the decision-making, which is of interest to this study. In all situations of decision-making, the decision-maker, faced with a problem, considers the choices and then the execution of the decision falls into one of the two broad categories as shown in Figure 1: (1) Classical (rational) decision-making; or (2) Intuitive (non-rational) decision-making. These two broad categories represent a division of theorist perspectives based on the outcome of the decision-making process and reflect the way choices are viewed, analysed and acted upon (Irwin and Real 2014).

The two theoretical paradigms present varied perspectives in understanding decision-making and the ways to establish and predict future outcomes. For interventions to be successful, the process would be the point in time that changes in the way choices are viewed, or first decisions are made could potentially change the outcome. This paper looks at non-rational decision-making theories applied to teaching practices. The following subsections provide a review of the literature, in the field of decision-making. Affect, cognitive load and decision-making will be reviewed in their subsection, with the final review of the literature providing evidence on the relationship amongst the three elements. The paper will then outline the methodology used in the study, provide the findings and discussion on the data, and lead the reader to the conclusions drawn from the study in the final section.

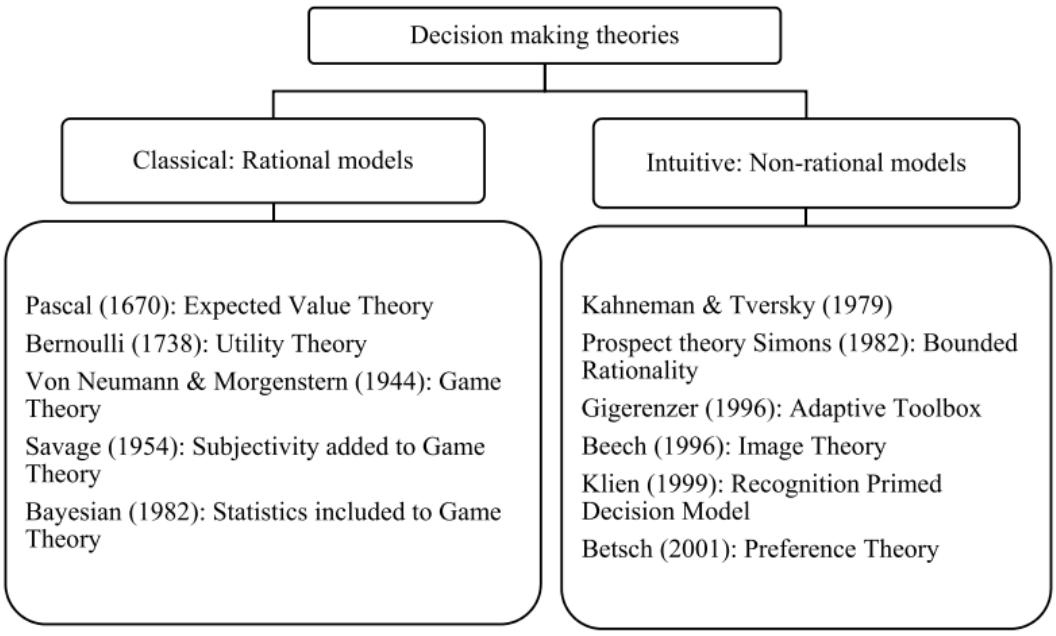


Figure 1. Decision-making theories.

Decision-making

Iyengar, Wells, and Schwartz (2006) found that college graduates who described themselves as rational, or linear, thinkers secured jobs with 20% higher starting salaries but reported less satisfaction with the choice made both during and after the job search. After the decision is made, linear or rational decision-making processes could leave teachers with a lowered sense of satisfaction in the outcome. Rational decision-making is based on consideration of as many available options as can be found, increasing teacher cognitive load in situations that may already have added anxiety. Dar-Nimrod et al. (2009) acknowledged that it is the availability of too many options that leads to cognitive overload and possible negative affect.

More recent theories extend beyond these linear models to include concepts of environment, experiences, emotion, and routines that influence the decision-making process. This change in the focus from the outcome alone to the potential influences on the decision-making process includes the concepts of affect and routines (Betsch 2014). As decision-making is the identification of a problem (or task) and finding the solution through analysis of multiple available choices, the final decision can be represented as a combination of elements in the decision-making process as represented in Figure 2.

Andrade and Ariely (2009) demonstrated that feelings, and the associated affect will influence future decisions of similar events. What this means in teaching practices is that repeated instances of unproductive student behaviours will influence the choices a teacher makes when deciding an outcome based on previous experiences. Supporting the concept that the affect related to previous experiences outlives the original cause for a student's behaviour in a current situation. It is the process of the decision-making that is of interest to this study.

Cognitive load and affect – influence on decision-making

Cognitive load and affect have the potential to influence decision-making based on a person's prior experiences and the context in which the decision is being made. Cognitive load refers to the used amount of working memory resources, while affect refers to the underlying affective experience of feeling, emotion or mood to a situation or

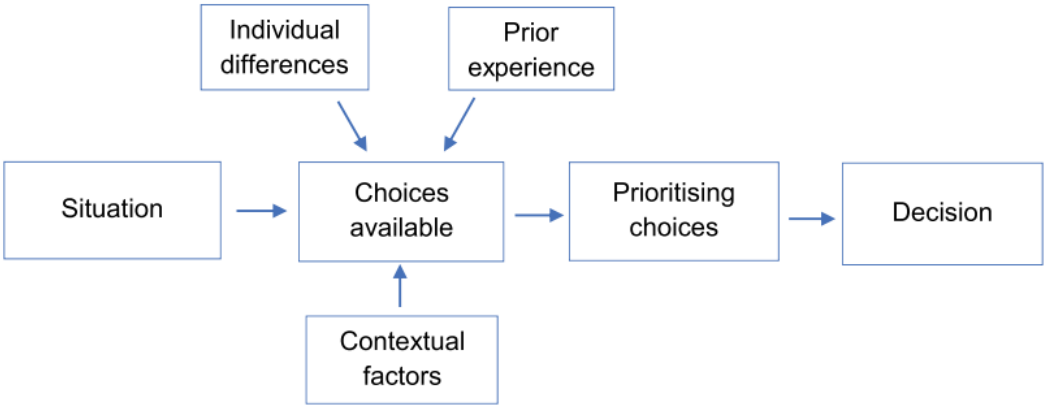


Figure 2. Decision-making model (Adapted from Zeni, Buckley, Mumford & Griffith, 2016).

event. During the decision-making process, the working memory is vulnerable to overload, reducing the space available for other cognitive tasks. This can then flow through to a person's affective state as they seem frustrated or flustered at not being able to execute even simple decisions with speed or reaching a preferred outcome (Tyng et al. 2017). Furthermore, negative affect influences working memory as the more anxious, frustrated and tense a person, the more difficult the ability to seek all alternatives when making a decision (Carswell et al. 2017). Situations with opportunities for similar decision-making processes can result in considering choices differently that lead to vastly altered outcomes based on the individual executing the decision.

Understanding the development of teacher affect will assist in teacher change, highlighting the importance that previous experiences have on cognitive load and affect in future decision-making. The influence of cognitive load and affect would change in different situations depending on the choices available and the approaches of the decision-maker to assess the choices. To better prepare teachers for reaching preferred outcomes when executing a decision, if the relationship between decision-making, cognitive load and affect can be better understood, then the process could change the outcome.

Relationship of decision-making, cognitive load and affect

The relationship between teacher decision-making, cognitive load and affect changes contingent on the choices and the approaches used by an individual to assess the choices available to make the decision (George and Dane 2016). The approach taken by a teacher to make a decision is the process, and any process considers the methods, or the approach used to do something (Arias-Bolzmann et al. 2018). The process used by teachers in decision-making can be seen to include the concepts of teacher thinking (cognitive load), choices available and the context of the current situation. A situation is defined as any interaction that interrupts learning sequence requiring teacher intervention.

When the process is understood, teacher education and professional development can be shaped to better equip teachers in the decision-making process of rather than targeting prediction of teacher decisions after they have been made. This concise review of the literature on decision-making recognised the area in which further research is required to better understand the influences on teacher decision-making. The next section will provide the methodology used to investigate the gap in the literature with the findings and discussion section, providing detailed evidence to support further investigation. The conclusion presents the position of the paper and direction for future research.

Methodology

This qualitative research was conducted in the natural setting of the classroom (Lloyd, Weaver, and Staubitz 2016) based on philosophical assumptions of social constructivism. Social constructivism recognises that people learn and build new understandings as they engage in learning experiences (Diaz-Leon 2015). Using qualitative methods allows the research to measure things that cannot be numbered adequately, such as how a person feels when an event happens. Interpretivism is one form of qualitative methodology that relies upon both the trained researcher and the human subject as the instruments to measure some phenomena (Pham 2018), providing data in real settings with the people

of which the research is about. Understanding teacher decision-making was best situated through the assumptions reflected in social constructivism and interpretivism represented in research through the inclusion of interviews and observations (Brinkmann and Kvale 2015). Interviews provided the foundation to explore the participants' own views and interpretations of events and the observations provide the evidence to compare between the two.

After ethics approval, eight teachers were recruited using convenience sampling (Etikan, Musa, and Alkassim 2016) from two demographically similar yet geographically distanced state high schools in Australia. The logic of convenience sampling lies in selecting information-rich cases, with the 'objective of yielding insight and understanding of the phenomenon under investigation' (Bloomberg and Volpe 2018, 148). The teachers represented a range of age, gender, and content areas across both schools, as shown in Table 1, using pseudonyms to ensure participant anonymity.

Over a three-month period, two classroom observations and interviews were conducted to explore the reflective practices of the participants. Reflective practice is the action of teachers learning through and from their own experiences towards gaining new insights of self and practice (Farrell and Ives 2015). Reflection is a systematic reviewing process for all teachers linking affect and knowledge from one experience to be applied to the next. From a social constructivist perspective, the study aims to understand teacher decisions as they occur in the classroom itself, allowing the study of reality as it is. Social constructivism holds that reality is constructed through the language in interactions with others primarily influenced by history, society, and culture (Armstrong 2019). To achieve these aims, the interviews for this study were guided by the research question: What elements influence teacher decision-making in the classroom?

This study considered the influence cognitive load and affect had on teacher decision-making. Participants were deliberately selected from two regional schools in Queensland through purposive sampling (Tracy 2019) based on the location of the researcher and the schools having similar demographics. Both schools have similar Index of Community Socio-Educational Advantage (ICSEA) rankings. These schools were intentionally selected as they represented a demographic of increased suspension rates compared with other schools, with the association of student disruption to teacher stress is identified throughout the literature and therefore pertinent to this study.

The responses made by participants were transcribed and then coded using NVivo software to interpret the data through language choices of positive and negative affect. The discourse of the transcriptions in NVivo was available for discourse analysis to explore how knowledge, meaning, identities, and social goods are negotiated and constructed

Table 1. Research participants.

Teacher pseudonym	Content areas	Teaching experience	Category of experience School 1 or 2
Leila	Arts	2	Beginning teacher School 1
Brett	Humanities	27	Experienced teacher School 1
Mandy	English	3	Beginning teacher School 2
Rob	English	12	Experienced teacher School 2
Indra	Science	2	Beginning teacher School 1
Nick	Arts	12	Experienced teacher School 1
Greta	Humanities	1	Beginning teacher School 2
Pam	English	27	Experienced teacher School 2

through language-in-use. The objective of an interview for discourse analysis is to capture the participant's language (Starks and Brown Trinidad 2007, 1374).

To better understand the use of language by teachers describing their experiences in this research, keywords in context (KWIC) were used as the framework of analysis to determine language patterns (Luhn 1960). Words used by teachers to describe teaching actions were divided into two initial themes of *acknowledgement* and *correction*. Acknowledgement language described actions that acknowledged students doing what was expected, while correction language acknowledged students in unproductive behaviours who were not meeting expectations. Upon further analysis, the categories of *positive affect* and *negative affect* were included as they emerged from the language used by teachers.

Findings and discussion

The language recorded through teacher interviews represented how a teacher felt about their actions, as their actions are their responses to the choices in making the decisions (Arias-Bolzmann et al. 2018). The themes of teacher language used were represented through identified KWIC and are located at the point of intersection of the corresponding columns and rows in Table 2. For example, the words used most regularly by teachers in the areas of Classroom Expectations and Acknowledge with Positive Affect were teacher, expectations, proactive and learning. Nick stated that 'clear expectations', while Pam commented on the 'positive nature of proactive comments in my classroom rules'. In contrast, teachers who acknowledged negative affect used words such as Brett and Mandy, who referred to 'students' as the ones who created the classroom environment. Indra reported that her 'presence seemed to make little difference' as 'students will continue to do as they like', no one is listening (to describe student disrespect), constantly reminding students and Rob and Leila reported feelings of 'tired' to express their feelings in managing classroom behaviour (change fatigue). This language usage shows the difference that was evidenced between similar actions based on a teacher's state of affect. The language the teacher participants used to retell an event reflected the affect they associated with that event as presented in Table 2. In analysing the themes, the teacher narratives provided contextual grounding for the analytical discussion about decision-making in the classroom.

There was a shift in the language style and the keywords used by participants to describe their actions in this study. Anthropologists have drawn attention to the interpretation of events via a representation of experiences through narratives (White 2017). The language change was consistent across different classroom events related to the same students and teachers reported perceptions of the student and prior events. In instances of negative affect, language moved to a passive or blame oriented nature (Ostovar-Nameghi and Sheikhahmadi 2016).

Over the six-month period of this study, the decisions made by teachers, as reflected in the language used in their lived stories, supported the conditions of satisfaction, consistent with a quicker and less cognitively taxing view of decision-making (Betsch et al. 2001a; Coba et al. 2018). In analysing the differences between these teachers, it was interesting to note that as demonstrated in Table 2, while the teachers were diverse in their backgrounds, reasons for teaching, years of teaching experience, gender and

Table 2. Teachers' literal words used to describe their actions.

Themes	Acknowledge and positive affect	Correct and positive affect	Acknowledge and negative affect	Correct and negative affect
Classroom expectations	Teacher Expectations Proactive Learning Consistent Positive	Doing what is asked Increase in students working	Student in control Frequently reminding Rules are broken	Reactive Non-responsive Tired
Acknowledge students meeting expectations	Positivity Relationships Teaching Learning	Building relationships Changing society	Disrupted	Doing as told the first time
Correction when not meeting expectations	Curriculum Work focus In control	Curriculum Learning Selectively attending	Teacher loses face Disrespect Stop others learning Inconsistency	Managing Punishment Interruptions
Follow through for unproductive behaviours	Rewarding Praising Relationships Controlling Positive talking	Reducing the need Positive relationships Change Learning	Not rewarding negative behaviours Repeated events	Blame students External issues Negative relationships

content areas taught that all teachers had similar language patterns. These language patterns can be represented through percentages applied to the key language terms used as shown in Table 3.

From these data of words used by teachers suggested that what happens in the classroom when teachers are provided with evidence on what is working, is that they are more likely to practice more of that action. Mandy stated when she . . . 'now had more of a set of steps to work though whereas before my behaviour management was more reactive, now it's more proactive', while Rob found that 'before I had these observations and conversations sometimes we'd line up and other times, if I was flustered, I'd just be like "come in and sit down"- there was little consistency in my practice'. The language in the second interview showed an increased state of awareness in all teachers with increased speed in prioritising choices when processing and executing a decision. The data in Table 3 support this statement with increased percentages reflecting higher use of words with positive affect. The language shift supports that teachers were happier with lowered feelings of frustration and a sense of less reactivity in the outcome. Ellis (2016) documented the impact a metalanguage has on classroom communication, a common understanding in language use will develop communicative processes.

Table 3. Percentages of word use.

Influences on classroom environment	Interview one	Interview two	Change measured
Teacher	.52	.75	+ 0.23%
Student	1.07	.51	−0.56%
Behaviour	.90	.71	+0.19%
Teaching	.42	.58	+0.16%
Expectations	.36	.46	+0.10%
Positives	.42	.75	+0.33%
Management	.50	.28	−0.22%
Training	.29	.38	+0.09%
Strategies	.33	.36	+0.03%

Consistently, the first interview transcripts included references to feelings of frustration, with feelings expanding to how teachers saw other teachers as well as their practice. For example, when talking about how other teachers were inconsistent in their classroom management, Nick said that 'it did not matter how many people told her, nothing changed'. This frustration, or negative affect towards other staff members, was also represented in the comment by Greta regarding demands on teachers, 'there are just too many things we are doing, I am confused'. In comparison, after the second observation and interview, teacher participants demonstrated a shift in the language used to describe classrooms and colleagues whereby participants reported an increased sense of control and positive affect reflected in Leila's transcript, 'that reflective part of it is so important, and that is what we see in the classroom now.'

Brett's comments also supported evidence in this positive language shift after observations reflecting that 'there are always things you can be doing as a teacher' and Greg, supporting this sentiment, feeling that sense of achievement when he was able to demonstrate that he was responsible for the classroom, 'I set the environment up, and it worked'. Similarly, Pam found success and reported a feeling of happiness as she changed her focus on the classroom and found that 'you have to be consistent, but it is also ok to be flexible'.

In the second observation, all teachers took the evidence from the initial observation, and within six months had consistently shown change to their teaching practice. In all observations, teachers' correction and redirection actions decreased. Positive actions were less intrusive to the learning of other students due to a reduction in the public nature of their use. This was a new finding not witnessed across the previous literature on classroom management and teacher decision-making. Previous studies have almost exclusively focused on the disruptive nature of student behaviours (Nash, Schlösser, and Scarr 2016) and teacher's management of those behaviours (Pas et al. 2015), not the intrusion of their teacher actions to the learning of other students.

From the interviews, another pattern emerged based on the focus of the reflection session. The reflection sessions were framed in a solution-focused conversation. A solution-focused conversation places the 'focus' on what is happening that creates positive learning environments and discusses how to do more of it. When the focus of the conversation shifts away from what is not working, solutions from what is already working will be seen (Lopez, Pedrotti, and Snyder 2018). From this perspective, the researcher found that what happened in the classroom when teachers have evidence on what is working changed their beliefs through their reflective practice towards favouring that action in future decisions made. Before [the observations] Nick stated he was … 'flustered'. Such language used to describe feelings demonstrated affect in the areas of frustration and failure (McGrath and Van Bergen 2015). The above statement by Nick supports the research on the link between negative affect and increased chance of dissatisfaction in one's job. Teachers reported a sense of increased success when they focussed on what was working (Akkaya and Akyol 2016). Nick reported after the observations that he felt 'more confident' as did Greta, who changed her 'mindset drastically in terms of managing the classroom and being prepared.'

The difference between the participants' interviews showed shifts in thinking (cognition). When the appropriate behaviour in the room is recognised first, it changed the culture within the classroom (Lanas and Brunila 2019). This change created a positive classroom environment based on acknowledgement and teacher actions that promoted

the expectations set in the classroom around curriculum and behaviour. The significance of these findings is imperative in consideration to the design and delivery of teacher education programmes in the areas of pre-service as well as those in teaching practice. Reduced negative affect in teachers, and increased positive environments would potentially reduce teacher attrition due to reasons cited by teachers in doing the work of teaching related to disruptive student behaviours and associated issues with classroom management.

Implications, limitations and future directions

This study provided evidence to support that teachers could change long-formed habits used to make daily decisions through a reflective framework based on classroom observations. Suitably qualified and competent teachers are drivers of good quality education systems, and sustaining such quality requires high expectations of interventions that focus on how to improve teacher practices (Mafora 2013). The discussion of this study demonstrated that the participants' language changed throughout the two observations and showed that the teacher participants' reflections on their practice increased after the classroom observations. Through a more targeted focus on positive actions in the classrooms, teachers increased their willingness to try new strategies. This simple shift in how to approach the consideration of choices available provides significant suggestions for future training programmes for both beginning and established teachers.

Several implications for practice are identified in this study. First, school principals should note that all teachers, including experienced teachers, benefited from interventions involving classroom observations that related to decision-making based on increased awareness in practice. A review in policy and school-based expectations taking this into consideration will better meet the needs of all teachers on decision-making in a changing educational system. Second, the simple shift in focus in decision-making from redirection to reinforcement will change the classroom environment. Finally, that when teachers shifted their focus in choosing alternatives based in areas of classroom expectations and reinforcement of appropriate student behaviours first, their cognitive load was decreased as was episodes of negative affect in themselves.

Several limitations require consideration when interpreting the results of this study. One is the small number of participants in the sample group. Future research could take this into account and increase the sample size. Within these schools, the researcher who undertook this study held a position of influence as an administrator in the Department of Education. This position of power was managed through the anonymity and confidential nature of data collection and handling to ensure no identification of teachers. Future research would benefit the analysis of teacher decision-making and the benefits of positive affect and reduced cognitive load.

Conclusion

Positive teachers add to a positive teaching culture and improve outcomes for student learning. Positive affect experienced by teachers is at risk when decision-making demands a high cognitive load over extended periods. The research findings presented in this

paper demonstrated a clear change in teacher affect when the choices available to decide were thought of differently through the lens of acknowledging students who are doing the right thing. The simplicity of the 4D programme demonstrated continued success in classroom practices by reducing the number of choices considered by teachers when faced with making decisions.

What the teachers focused on in the classroom changed teacher decisions immediately and led to different actions that resulted in more positive classroom environments. This change in teacher actions in the first response to acknowledgement over correction in interactions around curriculum and behaviour expectations was notable. The application of these findings will lead potentially to a simple shift in teachers' decision-making results in successful teaching practices. The outcome of this knowledge applied to professional learning programmes being a reduction in cognitive load and increased positive affect, in teacher decision-making, leading to teacher retention through more relevant professional learning programmes.

Disclosure statement

No potential conflict of interest was reported by the authors.

ORCID

Petrea Redmond http://orcid.org/0000-0001-9674-1206
Karen Peel http://orcid.org/0000-0003-1626-9525

References

Akkaya, R., and B. Akyol. 2016. "The Relationship between Teachers' Locus of Control and Job Satisfaction: A Mixed Method Study." *International Online Journal of Educational Sciences* 8 (3): 71–82. doi:10.15345/iojes.2016.03.008.

Andrade, E. B., and D. Ariely. 2009. "The Enduring Impact of Transient Emotions on Decision Making." *Organizational Behavior And Human Decision Processes* 109 (1): 1–8. doi:10.1016/j.obhdp.2009.02.003.

Arias-Bolzmann, L., W. F. Agurto, A. M. Chavez, R. Pantoja, and A. Pinto. 2018. "Decisions in Hierarchical Production Planning: Goals, Heuristics and Bias." *Revista Espacios* 39 (14): 1–11.

Armstrong, F. 2019. "Social Constructivism and Action Research: Transforming Teaching and Learning through Collaborative Practice." In *Action Research for Inclusive Education: Participation and Democracy in Teaching and Learning,* 17–30. London, UK: Routledge.

Beach, L. R., and R. Lipshitz. 2017. "Why Classical Decision Theory Is an Inappropriate Standard for Evaluating and Aiding Most Human Decision Making." *Decision Making In Aviation* 85: 835–847. doi: 10.4324/9781315095080-5.

Betsch, T. 2014. *The Routines of Decision Making*. Boston, Massachusetts: Psychology Press.

Betsch, T., H. Plessner, C. Schwieren, and R. Gütig. 2001b. "I like It but I Don't Know Why: A Value-account Approach to Implicit Attitude Formation." *Personality & Social Psychology Bulletin* 27 (2): 242–253. doi:10.1177/0146167201272009.

Betsch, T., S. Haberstroh, A. Glöckner, T. Haar, and K. Fiedler. 2001a. "The Effects of Routine Strength on Adaptation and Information Search in Recurrent Decision Making." *Organizational Behavior And Human Decision Processes* 84 (1): 23–53. doi:10.1006/obhd.2000.2916.

Binder, B. J. T., T. A. Johansen, and L. Imsland. 2019. "Improved Predictions from Measured Disturbances in Linear Model Predictive Control." *Journal of Process Control* 75: 86–106. doi:10.1016/j.jprocont.2019.01.007.

Blanchette, I., and A. Richards. 2010. "The Influence of Affect on Higher Level Cognition: A Review of Research on Interpretation, Judgement, Decision Making and Reasoning." *Cognition & Emotion* 24 (4): 561–595. doi:10.1080/02699930903132496.

Bloomberg, L. D., and M. Volpe. 2018. *Completing Your Qualitative Dissertation: A Road Map from Beginning to End*. Thousand Oaks, CA: Sage Publications.

Brinkmann, S., and S. Kvale. 2015. *Interviews: Learning the Craft of Qualitative Research Interviewing*. Vol. 3. Thousand Oaks, CA: Sage Publications.

Buchanan, L., and A. O Connell. 2006. "A Brief History of Decision Making." *Harvard Business Review* 84 (1): 1–16.

Carswell, M. A., G. Fabre, S.-J. Howard, and J. Williams. 2017. *Think, Collaborate, Decide, Teach: A Guide for Success*. Fort Lauderdale, FL: Nova Southeastern University.

Chandler, P., & Sweller, J. 1991. Cognitive load theory and the format of instruction. *Cognition and instruction* 8 (4): 293–332. doi:10.1207/s1532 690xci0804_2

Coba, L., M. Zanker, L. Rook, and P. Symeonidis. 2018. "Decision Making of Maximizers and Satisficers Based on Collaborative Explanations." ACM Woodstock conference. 1–10. New York, NY: ACM Publishing. doi:10.1145/3301275.3302304

Dar-Nimrod, I., C. D. Rawn, D. R. Lehman, and B. Schwartz. 2009. "The Maximization Paradox: The Costs of Seeking Alternatives." *Personality and Individual Differences* 46 (5–6): 631–635. doi:10.1016/j.paid.2009.01.007.

Diaz-Leon, E. 2015. "What Is Social Construction?" *European Journal of Philosophy* 23 (4): 1137–1152. doi:10.1111/ejop.12033.

Ellis, M. 2016. "Metalanguage as a Component of the Communicative Classroom." *Accents Asia* 8 (2): 143–153. doi:10.1080/09658410208667042.

Etikan, I., S. A. Musa, and R. S. Alkassim. 2016. "Comparison of Convenience Sampling and Purposive Sampling." *American Journal of Theoretical and Applied Statistics* 5 (1): 1–4. doi:10.6224/JN.61.3.105.

Farrell, T. S., and J. Ives. 2015. "Exploring Teacher Beliefs and Classroom Practices through Reflective Practice: A Case Study." *Language Teaching Research* 19 (5): 594–610. doi:10.1177/1362168814541722.

Fisher, W. D. 1962. "Estimation in the Linear Decision Model." *International Economic Review* 3 (1): 1–29. doi:10.2307/2525296.

Francis, A.L., and J. Love. 2020. "Listening effort: Are we measuring cognition or affect, or both?" Wiley Interdisciplinary Reviews: *Cognitive Science* 11 (1): 1–27. doi:10.1002/wcs.1514

George, J. M., and E. Dane. 2016. "Affect, Emotion, and Decision Making." *Organizational Behavior And Human Decision Processes* 136: 47–55. doi:10.1146/annurev-psych-010213-115043.

Guzak, J. R. 2015. "Affect in Ethical Decision Making: Mood Matters." *Ethics & Behavior* 25 (5): 386–399. doi:10.1080/10508422.2014.941980.

Irwin, J. F., and D. L. Real. 2014. "Unconscious Influences on Judicial Decision-making: The Illusion of Objectivity." *Behavioral and Brain Sciences* 37: 1–19. doi:10.1017/S0140525X12003214.

Iyengar, S. S., R. E. Wells, and B. Schwartz. 2006. "Doing Better but Feeling Worse: Looking for the "Best" Job Undermines Satisfaction." *Psychological Science* 17 (2): 143–150. doi:10.1111/j.1467-9280.2006.01677.x.

Jhang, F. H. 2020. "Teachers' Attitudes Towards Lesson Study, Perceived Competence, and Involvement in Lesson Study: Evidence from Junior High School Teachers." *Professional Development in Education* 46 (1): 82–96. doi:10.1080/19415257.2019.1585383.

Kant, I. 1999. *Practical Philosophy*. Cambridge, UK: Cambridge University Press.

Kant, I. 2017. *Kant: The Metaphysics of Morals*. Cambridge, UK: Cambridge University Press.

Lanas, M., and K. Brunila. 2019. "Bad Behaviour in School: A Discursive Approach." *British Journal of Sociology of Education* 40 (5): 682–695. doi:10.1080/01425692.2019.1581052.

LeBlanc, V. R., M. M. McConnell, and S. D. Monteiro. 2015. "Predictable Chaos: A Review of the Effects of Emotions on Attention, Memory and Decision Making." *Advances in Health Sciences Education* 20 (1): 265–282. doi:10.1007/s10459-014-9516-6.

Lloyd, B. P., E. S. Weaver, and J. L. Staubitz. 2016. "A Review of Functional Analysis Methods Conducted in Public School Classroom Settings." *Journal of Behavioral Education* 25 (3): 324–356. doi:10.1007/s10864-015-9243-y.

Lopez, S. J., J. T. Pedrotti, and C. R. Snyder. 2018. *Positive Psychology: The Scientific and Practical Explorations of Human Strengths*. 3rd ed. ed. Thousand Oaks, CA: Sage Publications.

Luhn, H. P. 1960. "Key Word-in-context Index for Technical Literature (Kwic Index)." *American Documentation* 11 (4): 288–295. doi:10.1002/asi.5090110403.

Mafora, P. 2013. "Managing Teacher Retention in a Rural School District in South Africa." *The Australian Educational Researcher* 40 (2): 227–240. doi:10.1007/s13384-013-0088-x.

Martin, S. 2014. "Measuring cognitive load and cognition: Metrics for technology-enhanced learning." *Educational Research and Evaluation* 20 (7): 592–621. doi:10.1080/13803611.2014.997140.

McGrath, K. F., and P. Van Bergen. 2015. "Who, When, Why and to What End? Students at Risk of Negative Student–teacher Relationships and Their Outcomes." *Educational Research Review* 14: 1–17. doi:10.1016/j.edurev.2014.12.001.

Memari, M., and A. Gholamshahi. 2018. "Attitudinal and Affective Classroom Ecology and Atmosphere." *Applied Linguistics Research Journal* 4 (2): 1–14. doi:10.14744/alrj.2020.92400ALR.

Moray, N. 1979. "Models and Measures of Mental Workload." In *Mental Workload. NATO Conference Series, 8*. Springer, Boston: MA. doi:10.1007/978-1-4757-0884-4_2.

Murray, J. D., J. Jaramillo, and X.-J. Wang. 2017. "Working Memory and Decision-making in a Frontoparietal Circuit Model." *Journal of Neuroscience* 37 (50): 12167–12186. doi:10.1016/S0079-6123(05)49011-1.

Nash, P., A. Schlösser, and T. Scarr. 2016. "Teachers' Perceptions of Disruptive Behaviour in Schools: A Psychological Perspective." *Emotional and Behavioural Difficulties* 21 (2): 167–180. doi:10.1080/13632752.2015.1054670.

Ostovar-Nameghi, S. A., and M. Sheikhahmadi. 2016. "From Teacher Isolation to Teacher Collaboration: Theoretical Perspectives and Empirical Findings." *English Language Teaching* 9 (5): 197–205. doi:10.5539/elt.v9n5p197.

Pas, E. T., A. H. Cash, L. O'Brennan, K. J. Debnam, and C. Bradshaw. 2015. "Profiles of Classroom Behavior in High Schools: Associations with Teacher Behavior Management Strategies and Classroom Composition." *Journal of School Psychology* 53 (2): 137–148. doi:10.1016/j.jsp.2014.12.005.

Pham, L. T. M. (2018). *Qualitative Approach to Research, a Review of Advantages and Disadvantages of Three Paradigms: Positivism, Interpretivism and Critical Inquiry*. (Master), University of Adelaide, Adelaide, Australia.

Rezaei, J. 2016. "Best-worst Multi-criteria Decision-making Method: Some Properties and a Linear Model." *Omega* 64: 126–130. doi:10.1016/j.omega.2015.12.001.

Sandilos, L. E., S. E. Rimm-Kaufman, and J. J. Cohen. 2017. "Warmth and Demand: The Relation between Students' Perceptions of the Classroom Environment and Achievement Growth." *Child Development* 88 (4): 1321–1337. doi:10.1111/cdev.12685.

Spence, S. 1995. "Descartes' Error: Emotion, Reason and the Human Brain." *British Medical Journal* 310 (6988): 204–222. doi:10.1136/BMJ.310.6988.1213.

Srinivasan, R. 2020. "On Solving Fuzzy Linear Fractional Programming in Material Aspects." *Materials Today: Proceedings* 21: 155–157. doi:10.1016/j.matpr.2019.04.209.

Starks, H., and S. Brown Trinidad. 2007. "Choose Your Method: A Comparison of Phenomenology, Discourse Analysis, and Grounded Theory." *Qualitative Health Research* 17 (10): 1372–1380. doi:10.1177/1049732307307031.

Sweller, J. 2017. "The role of independent measures of load in cognitive load theory". In *Cognitive load measurement and application,* 3–7. London, UK: Routledge.

Tracy, S. J. 2019. *Qualitative Research Methods: Collecting Evidence, Crafting Analysis, Communicating Impact*. West Sussex, UK: John Wiley & Sons.

Tyng, C. M., H. U. Amin, M. N. Saad, and A. S. Malik. 2017. "The Influences of Emotion on Learning and Memory." *Frontiers in Psychology* 8: 1–22. doi:10.3389/fpsyg.2017.01454.

White, D. 2017. "Affect: An Introduction." *Cultural Anthropology* 32 (2): 175–180. doi:10.14506/ca32.2.01.

Wittrock, M. C. Association, A. E. R. 1986. *Handbook of Research on Teaching: A Project of the American Educational Research Association*. New York, NY: Macmillan; Collier-Macmillan.

Zeni, T.A., M.R. Buckley, M.D. Mumford, & J.A. Griffith. 2016. "Making "sense" of ethical decision making". *The Leadership Quarterly* 27(6): 838–855. doi:10.1016/j.leaqua.2016.09.002

CHAPTER 6 FINDINGS AND DISCUSSION PART B

I did then what I knew how to do. Now that I know better, I do better. (*Maya Angelo, 2013*)

Journal article II: Educational Studies

Blackley C., Peel, K., & Redmond, P. (under peer review 2021). The design and development of professional learning programs on teacher knowledge and skill transference to teaching practices. *Educational Studies.*

The Classroom Profile program: Development of teacher knowledge and skills in classroom management

Abstract

Student classroom behaviours and the teacher-student interactions that arise from them form one of the classroom environments foundations. Productive teaching and learning environments are closely aligned with positive teacher-student interactions influenced by teacher knowledge and classroom behaviour management skills. This paper presents research conducted as a part of a broader investigation to understand the development of teacher knowledge and skills gained through a professional learning program to inform teaching practice. Qualitative data were collected through semi-structured interviews and classroom observations from four Australian secondary school teachers, who participated in a three-day professional learning program, referred to as the Classroom Profile program. Thematic analysis methods were used to identify what difference participation in the Classroom Profile program made to the participants' teaching practice. After completing the Classroom Profile program, teachers were found to continue using reactive management skills that were intended to stop undesired student behaviours from causing disruption, rather than choosing proactive or less intrusive teaching practices. The findings supported claims that the Classroom Profile program did increase the teacher participants' knowledge in the Essential Skills of Classroom Management. However, there was limited demonstration of skills to support the program's increased use of skills for positive interactions with students. Evidence indicated the need for a professional learning shift toward proactive approaches that give rise to positive teacher-student interactions and reduce the interruption to teaching and learning. This study highlights the value of teachers' development of knowledge and skills for deliberate decision-making as a proactive approach to classroom behaviour management. It reinforces the need for relevant and current professional learning programs that provide this teacher development.

Keywords: Classroom Profile, knowledge and skills, professional learning, classroom management

Introduction

Interruptions to the flow of learning caused by students' unproductive behaviours require teacher intervention, with the restorative outcomes of these interventions being a consequence of positive teacher-student interactions (Beuchert, Humlum, Nielsen, & Smith, 2018). These interactions play an invaluable role in developing and maintaining productive teaching and learning environments for learning (Overland, Barber, & Sackville-Ford, 2020). Hattie (2009) showed that environments conducive to learning are most likely to be found in classrooms where there are positive interactions between students and their teachers. As such, teacher-student interactions influence the likelihood of escalation or de-escalation of unproductive student behaviours that impact curriculum delivery and the engagement in learning for the whole class.

The outcome of any teacher-student interaction in classroom behaviour management is established during the onset of that interaction based on the teachers' knowledge and skills to determine the correction path. In this study, the term *classroom behaviour management* is defined as the decisive, proactive, preventative teacher actions that promote student engagement, and, strategic, respectful, actions that eliminate or minimise student disruption when it arises, to maintain productive teaching and learning environments. Similarly, other researchers linked classroom management with behaviour management (O'Neill & Stephenson, 2011). This definition suggests that classroom behaviour management is intertwined with behaviour management with the former being about creating systems that support productive behaviour for learning, while the latter suggests skills to manage unproductive behaviours that interrupt the momentum of teaching and learning.

The management of classroom behaviours is at the discretion of teachers as they choose their responses to students' behaviours. Teachers' responses can be public that broadly attracts the attention of class members or may be delivered in more discrete and less intrusive ways that do not draw unnecessary notice to the disruptive behaviour or to the student exhibiting that behaviour (Rogers, 2015). The more public the teacher-student interaction, the more likely the student's behaviour will impact others' learning in the classroom (Naidoo & Triegaardt, 2019). Interactions based on reduced intrusion to the learning will benefit the whole class by limiting the attention given to behaviours that disrupt student learning while

maintaining a core focus on curriculum and learning (Blatchford & Russell, 2019). Alternatively, a teacher may choose not to respond to behaviour by monitoring without intervention to give the student time and space to self-correct the low-level disruptive behaviour. A study by Eisenman, Edwards, and Cushman (2015) found that a common observation was that negative teacher-student interactions rarely lead to on-task student behaviours. Negative interactions might stop the student from exhibiting disruptive behaviour temporarily. However, there was little evidence of changing the student behaviour for extended periods when using punitive or reactive classroom management methods (Eisenman et al., 2015). How teachers interact with students will ascertain the probability of repeated student behaviours, whether productive or unproductive (Hepburn & Beamish, 2019). Sullivan, Johnson, Conway, Owens, and Taddeo (2014) defined unproductive student behaviours as student actions that impeded a student's academic progress, meaning productive behaviours add to positive student outcomes.

How teachers respond to productive and unproductive student behaviours is established through the knowledge and skills that they have developed and transformed into classroom teaching practices. Eisenman et al. (2015) stated that the focus for teachers learning the required knowledge and classroom management skills lies in teacher preparation. For Australian teachers, the Australian Institute for Teaching and School Leadership (2018) refers to classroom management as a priority area for initial teacher education, with the Australian Professional Standards for Teachers (APST) offering Standard 4: Create and maintain supportive and safe learning environments, which describes the proficiency of practices for successful students' learning (Australian Institute for Teaching and School Leadership, 2010). As a professional standard for graduate and in-service teachers in Australian schools, it is expected that teachers will develop knowledge about evidence-based practices and demonstrate these skills in their teaching practice. Therefore, the development of such skills for in-service teachers is most likely to be attained through professional learning programs. The Classroom Profile is such a program that is intended to provide teachers with knowledge and skills in classroom behaviour management through classroom observation training.

The interest of policymakers has intensified regarding the evidence of the impact that professional learning programs have on teaching practice (Minor, Desimone, Lee, & Hochberg, 2016) and ultimately on student outcomes (Akiba & Liang, 2016; Wang, Degol, Amemiya, Parr, & Guo, 2020). As demands for evidence of student learning have increased (Carey, Grainger, & Christie, 2018), practitioners, researchers and policymakers are expected

to systematically think about how teachers learn about effective teaching practices (Meyer & Bowhay, 2020). It is essential that the planning and implementation of professional learning programs consider how to best prepare teachers for in-depth mastery of current knowledge and relevant skills and provide the transference of these into teaching practices (Sellars, 2017).

The study presented in this paper was guided by questioning: What difference does the Classroom Profile program make in teaching practices? Across the literature, professional learning for teachers was identified as a requirement of ongoing development (Sugai & Horner, 2020); the Classroom Profile program (Davidson, 2015) has been used in Queensland schools since 1996 as a professional learning program intended to support the development of teacher knowledge and skills for classroom behaviour management. However, the program required further investigation to determine its effectiveness in meeting its intended goals. This study aimed to investigate in-service teachers' changes in classroom behaviour management knowledge and skills after attending the Classroom Profile program professional learning program. This training is based on using a checklist for recording teaching practices during a classroom observation coupled with a post-lesson conversation. The Classroom Profile program aims to understand teaching practices based in a common language when teachers are undertaking classroom observations in other teachers' classrooms. The checklist provides a set of teaching practices to record the frequency and types of responses used by the teacher being observed when interacting with students during behaviour and curriculum conversations. The Classroom Profile program concept was found to add value to pre-service teacher development, but there is limited evidence of its effectiveness with in-service teachers. For teachers to apply knowledge and skills to practice, they need professional learning programs that support the attainment and transference of knowledge and skills to teaching practices.

This paper will firstly provide a brief background tot eh present study and a succinct literature review of the key findings. It will then discuss the methodology of the study before presenting a discussion based on the findings from the interview and observation data. Recommendations and the implications of the study are shared with the conclusion providing direction for future research.

Literature Review

Teachers' professional learning is a lifelong process (Skaalvik & Skaalvik, 2015). Beginning educators are prepared through rigorous initial teacher programs for the roles and responsibilities they will assume in the field (Hannan, Hamilton, & Kaufman, 2019; Ruohotie-Lyhty & Moate, 2016). The second phase of teacher education occurs when teachers are within a school, and learning is part of the work itself. Research findings showed that teachers reflected that most of their knowledge and skills to manage classroom environments developed once they began teaching. This learning is developed from first-hand experiences that often are learnt from mistakes made in classroom practice (Christophersen, Elstad, Turmo, & Solhaug, 2016). The literature further identified that knowledge and skills for classroom behaviour management are also developed during induction programs and collegial contacts, including mentors (Callahan, 2016).

A common criticism in the research on teacher learning concluded that a problem with many professional learning programs is in the transference of skills from an intellectual understanding of the theory to enactment in practice (Casey & Worthen, 2019). Well-designed professional learning programs lead to desirable teacher practice changes and student outcomes through changed teaching practices (Jacob & McGovern, 2015; Showers & Joyce, 1996). Of interest, in the United States of America, Darling-Hammond, Hyler, and Gardner (2017) found high financial investments in all forms of teacher professional learning resulted in little change in teacher practice and improvement of student learning, as measured through state assessments. The recommendations of the study were not to drop investment in teacher professional learning programs. Instead, recommendations included redefining what it means to help teachers improve and re-evaluate current professional learning programs' design and delivery.

In Queensland, Australia, the Essential Skills of Classroom Management (Department of Education and the Arts, 2006), is commonly referred to by teachers as the starting point for their professional learning in managing classroom behaviour. The Classroom Profile program is a professional learning program centred on the Essential Skills of Classroom Management (ESCM). The program consists of skills that are introduced to teachers as effective practices. Hepburn, Beamish, and Alston-Knox (2020) stated that only four of these ten skills are preventative approaches (establishing expectations, giving instructions, body language encouraging, and descriptive encouraging). The intention behind the other six of

the ten skills that make up the ESCM (waiting and scanning, cueing with parallel acknowledgment, selective attending, redirecting to the learning, giving a choice and follow through) focus on teachers' responses to unproductive behaviours and so are reactive in nature. Thus, it stands to reason that the design of the Classroom Profile program in Queensland is currently founded on teaching teachers to use more reactive interactions when managing student disruptions (Appendix N and O). This emphasis on the use of reactive practices contradicts the findings in the literature around the benefits of proactive approaches that are delivered with high frequency and are intended to reduce the likelihood of disruptive behaviours occurring during instruction or when students are engaging in work (Clunies-Ross, Little, & Kienhuis, 2008).

Furthermore, a study conducted by Jackson, Simoncini, and Davidson (2013) cited the Classroom Profile program's benefits to pre-service teachers as being improved perceptions of their knowledge and confidence in managing classroom situations. Still, these findings were not replicated and moreover challenges the impact of the training on in-service teachers' practices. Therefore, further investigation was required to evaluate the Classroom Profile program as a practical approach to provide teachers with the knowledge and skills reflective of current classroom behaviour management trends.

Methodology

By observing teaching practices in classrooms, social constructivism's philosophical assumptions guided this study's design. Qualitative methods enabled the observations of "shared patterns of behaviours" (Creswell, 2014, p. 19) observed within the participants' natural setting. Amineh and Asl (2015) asserted that social constructivism recognises the value of constructing new understandings using current knowledge for active rather than passive learning. By applying a social constructivism lens to the study, the teacher participants' lived stories were able to be told and de-constructed to be better understood. They were represented as learners, who engaged in a professional learning program that reshaped their realities through the social collaboration of classroom observations and interviews (Diaz-Leon, 2015). The consideration given to a qualitative study using social constructivism leant itself to include the researcher's impact on the participants' stories as both the observer and interviewer in data collection. The differences found among teachers and their stories related to their experiences of the Classroom Profile program, which was of

interest to this study and social constructivism provided a means to measure these differences by comparing the personal accounts of the participants' lived experiences under investigation. Brinkmann and Kvale (2015) stated that social constructivism's assumptions could be best represented through the interviews and observations used in the study to explore participants' descriptions of their teaching practices.

Following ethics approval, four teachers were chosen from a group of volunteers across two demographically similar yet geographically distanced public secondary schools in Australia for the study. Details about the four participants' teaching experiences, years of practice, and pseudonyms are outlined in Table 6.1.

Table 6.1. Research participants' details

Teacher Pseudonym	Content Areas Teaching	Teaching Experience	Level of Experience School 1 or 2 (SC1/SC2)
Leila	Arts	2	Beginning teacher SC1
Brett	Humanities	27	Experienced teacher SC1
Mandy	English	3	Beginning teacher SC2
Rob	English	12	Experienced teacher SC2

The teachers participated in two classroom observations combined with semi-structured interviews, each of 30-minutes duration. The data collected from each were instrumental in establishing the differences across teaching practices before and after attending the Classroom Profile program. The Classroom Profile program uses an observation tool to collect evidence on the management of student behaviours by teacher participants in response to both productive and unproductive student behaviours (Appendix N and O). The Classroom Profile program is a three-day course for teachers to learn how to conduct classroom observations in their schools (Davidson, 2015b). Teachers who engage in the Classroom Profile program are accredited to complete classroom observations to collect teaching practice evidence for other teachers. For this study, the classroom observations for the data collection were undertaken by teachers who had several years of experience undertaking their initial interview and classroom observation before attending the Classroom Profile program.

The observation tool consists of skills that are divided into seven categories based on their similarities and differences. For example, the category of *Positive feedback* includes teacher skills where a teacher interacts with students positively by using verbal and non-verbal interactions that informed students that they are meeting behaviour or curriculum

expectations. The observations were conducted for 30 to 40-minutes to record the frequency of the teaching skills that were organised into seven categories. These categories and their associated teacher skills from the Classroom Profile program (Davidson, 2015a) are described in Table 6.2.

Table 6.2. Teaching skills and their categories from the Classroom Profile program (Department of Education Training and the Arts, 2015a)

Categories	**Skills**
Positive feedback	Individual curriculum Individual behaviour Group curriculum Group behaviour Whole class curriculum Whole class behaviour
Instruction Giving	Non-verbal directional action Oral directional phrase Waiting and scanning Descriptive encouraging
Positive Supportive Teacher skills	Cueing/parallel acknowledgement Description of reality Verbal redirection to learning Individual close talk Expectations clarified restated Indicate post lesson discussion Move student in room Peripheral vision while working Selective attending/tactical ignoring
Non-verbal redirecting to learning	Non-verbal redirection Proximity Pause in talk
Oral redirections	Questioning to redirect Humour to manage behaviour Call students name Redirection given
Enforcing expectations	Give choice/warning Follow Through Time out/other/room
Emotive teacher actions	Give choices but not Follow Through Give choice (tone/proximity) Overlook very inappropriate behaviour Put downs/sarcasm Raise voice/yelling Send to time out without choice/warning You/why statements

The first data were collected through the classroom observations, and these were conducted within two months after professional learning program was attended by the participants. Interview one was based on three questions that sought to understand how teachers developed classroom management skills, such as *Do you feel prepared, with the right skill set to manage classroom behaviour;* and *What do you see as important teaching strategies to manage classroom behaviours?* The second interview revisited these same three questions. It explored a further five questions that began with: *Since doing the 3-day Classroom Profiling training do you feel better equipped to manage classrooms behaviours? How do you feel better equipped?* The interviews' recordings were transcribed, read, and reread to record patterns and ideas before coding.

The data were thematically analysed to identify themes and patterns across participants' language use to describe their experiences (Maguire & Delahunt, 2017). The six-step thematic analysis followed the process of: (1) gaining familiarity with data; (2) generating initial codes; (3) searching for themes; (4) reviewing themes; (5) defining and naming themes; and (6) finally producing the report. To initially address the research question, the coding of the interview data were conducted to identify the common threads that enabled the researcher to interpret and understand the teachers' experiences (Castleberry & Nolen, 2018). Early stages were completed through grouping by hand, post-it-notes on a wall to analyse the interview data to gather information about the commonalities and differences between interviews and the observed teaching practice that were recorded on the observation tool.

NVivo software advanced the analysis (Edhlund & McDougall, 2019) to cross-reference the themes among and across participants for the purpose of checking and rechecking the patterns that emerged from the transcripts. The teacher participant's language patterns, when describing their teaching experiences, were aligned with positive or negative emotions, and these were coded in accordance with how they described their interactions with students when managing productive or unproductive behaviours in the classroom.

The interview questions were broadly grouped into areas regarding teachers' reflections about what influenced their classroom interactions, how they saw their responses influenced these interactions and how they developed the knowledge and skills to create a positive teaching and learning environment. The language used by the teacher participants to describe these interactions in interviews were then compared with data collected using the observation

tool to understand whether what the teachers reported they were doing was what occurred in their teaching practices.

Central to understanding the narratives told during the semi-structured interviews by the teacher participants about their classroom experiences was understanding the influences that shape and are shaped by the classroom social structures (Armstrong, 2019). Amineh and Asl (2015) cite that "Vygotsky believed that people master their behaviour through psychological tools and that language was the most important psychological tool of them all" (p. 10). The interview and observation data compared the frequency of skills used in teacher-student interactions and the interviews confirmed the teacher's awareness and intention of the teaching practice.

Findings and discussion

Through the similarities and differences found across the teacher participants' stories, themes were found based on self-reports of teacher success or non-success in creating productive teaching and learning environments. Before and after participation in the Classroom Profile program, teachers were observed using reactive skills at the cost of considering other skills that would reduce students off-task behaviours in the first place. By comparing the teaching practices and the teachers' experiences, as expressed during the interviews, it is proposed that the Classroom Profile program, based on the ESCM, trained staff to use more reactive than proactive teaching skills when responding to disruptive student behaviours than trained them in proactive teacher skills. Furthermore, the evidence suggests that the program did not support or guide teachers over the impact choosing one skill over another would have to class environment. The findings and discussion are presented through the lens of the data collected in interviews, observations, and how these two data sets provided information on teachers' choice to use different skills to manage classroom behaviours. Throughout the findings and discussion, words from the participants are represented through single inverted commas.

Findings from the interviews

There were notable differences between the first and second interviews in the transcripts from interviews with the teacher participants. All participants demonstrated an increased

level of confidence in describing their interactions with students that were influenced by their teaching practices. Brett described a positive classroom environment as 'one where students are talking and learning from one another with no disruption', while Mandy explained a classroom that was 'quiet and focussed on the task'. All teachers spoke of the benefits of having a common understanding of the terms to describe their teaching practices in their classrooms.

Throughout the interviews, the language the teachers used to describe their teaching practices gave insight into the reflective nature of these teachers. Rob spoke of his noted changes to classroom practice, specifically that 'he now thought about his interactions with students, even if [I] don't get it right every time'. Furthermore, the teachers expressed that their classroom management preparation in their first few years of teaching was underprepared, supported by other research findings (Cloonan, 2019; Stoughton, 2007). As an experienced teacher recalling early years teaching, Pam felt that she was 'not at all prepared when she left university', meaning that development of skills in classroom management were obtained within her early years of practice. Highlighting the importance of programs designed to support teacher knowledge and skills that will transfer to classroom practice.

Through the interview's teachers' responses aided the study in developing a picture of how teachers gained the necessary knowledge, skills, and confidence in classroom management practices and where these skills were acquired, such as the statement by Pam who added that her skills in classroom management were developed in 'practice with people who were competent in classroom management'. The literature found connections between teachers' confidence and success in managing student behaviours (O'Neill & Stephenson, 2012). Teachers' reliance on being mentored in classroom behaviour management leaves the development at the discretion of luck rather than targeted professional learning programs. This data provided depth to the understanding of teacher skill development through professional learning programs and the heavy reliance of teachers on the guidance of mentors and school policies in developing agency for classroom management practices. The design and delivery of training programs influence teachers' views and implementation of classroom management practices.

In reviewing the Classroom Profile program, as a professional learning program, it was noted that it is based on the ESCM, in which six of the ten skills were reviewed as reactive by

Hepburn et al. (2020). As such, it is reasonable to presume that the Classroom Profile program would guide teachers towards reactive teaching practices. This assumption was evidenced through participants such as Mandy who was 'confused with what skills I should use first' and stated that she would be aware of how some skills she chose were 'stopping others from learning'. In understanding the importance of the content in the Classroom Profile program, the patterns found in the data produced two significant areas to be addressed.

Firstly, as a professional learning program, the use of the ESCM in the design of the observational checklist, which is the foundation for the Classroom Profile program, influenced the teachers' choices in teacher-student interactions and their use of reactive skills was recorded as more likely than proactive teacher skills. Secondly, Hepburn et al. (2020) in a study highlighted two aspects that were evidence din this study: (1) that the ESCM are referred to through familiarity of the term with limited understanding of their implementation or what the ten essential skills are, and how to implement them into practice along with (2) that the reactive nature of the ESCM encourage teachers continued use of reactive over proactive teaching skills in classroom management. This resulted in further inquiry into the impact of proactive and reactive teaching skills.

Findings from the observations

The inclusion of classroom observations in the data collection was to compare teachers' narratives of their experiences in teaching practices with evidence of actual teaching practice through objective observation. The researcher was interested in the differences between teachers and their teachers' views concerning their teaching practice and actual classroom practice. If these differences are understood, then the design and implementation of professional learning programs can benefit teaching practices. The data reflected patterns that showed that reactive skills effectively stopped a student's unproductive behaviour. Still, the same student would often repeat the behaviour or disrupt the learning space in another way within a short period. Interestingly, those unproductive behaviours were less likely to be repeated when the teacher's interaction with the student included proactive or curriculum-focused options. This was evidenced in the teacher comments when discussing the data from their classroom observations. Greta stated she 'was tired of constantly reminding the same students about the same behaviour'; Leila also found it difficult to 'have students quiet and

ready' for instructions. At the same time, Nick was sure that students are 'not listening when I am speaking'. These statements reflected the language of frustration in teacher narratives when describing their classroom experiences. The Classroom Profile program had provided awareness in the skills to use but had not given teachers the order or a framework to use those skills to decrease student behaviours, causing continued frustration.

Teacher interactions that caused frustration were found to stem from reactive interactions with students. If we consider the training, and the use of the ESCM to inform the training, then teachers are being trained in more reactive skills to respond to student disruptions than proactive skills. This then draws attention to the training in fact encourages the skills that cause teachers the most frustration in changing student behaviour in classroom disruptions. Patterns emerged in teacher-student interactions that demonstrated that reactive teacher interactions with off-task students did not change a student's behaviour but only offered a short-term reprieve by stopping the behaviour for a limited period after the exchange. Students returned to the off-task behaviour or a new off-task behaviour within a brief time frame. In comparison, teachers who used more proactive actions reported that they did not need to remind students about the same behaviours and these interactions offered a sense of relief. Nick used more proactive teacher strategies and when his observation data were compared to other teachers, the disruption caused in the classroom was by different students each time, not the same student repeating off-task behaviours. The comments made in reflection on observations by the other teachers based on frustration were reasonable, given that they were repeatedly attending to the same or similar unproductive student behaviours within noticeably short time frames. It can be surmised that reactive teacher interactions only managed to interrupt the unproductive student behaviours, they did not change them.

This high repetition of negative interactions will result in increased cognitive load, a distraction from teaching, and increased negative affect in teaching (Boekaerts, 2017). These relationships between repeated disruptions and repeated teacher-student interactions were validated through teacher interviews. Furthermore, the wheel of repetition in teacher actions for the same student with similar disruption behaviours was corroborated through their observation data. When participants were asked why they chose one skill over another, all participants referred to the Classroom Profiling Checklist design and used it as a guide to inform their choices of which action to use before others.

The differences between the first observation and the second observation reflected a minimal reduction in reactive skills in response to unproductive behaviours. The use of positive feedback reduced in the second observation, which could decrease student disruption. Interestingly student disruptive behaviours reduced in the second observation. The decrease in data on student disruption could be interpreted as a positive outcome. However, the reduction in student disruption was associated with student behaviours rather than the effort of teachers setting up a positive learning environment. The changes in student behaviours resulted from the students themselves and not through any interactions or interventions made by the teacher. This conclusion is supported through teacher observation data from proactive skills on the Classroom Profile as there were no increases in proactive measures, such as positive feedback for curriculum conversations with students as shown in Table 6.3.

Table 6.3. Teacher actions observed once every *n* minutes.

Teacher categories	**First observation *n=minutes***	**Second observation *n=minutes***	**Use of skill across two observations**
Positive feedback: curriculum	2.0	3.5	Decreased

The proactive measures that could have been used to maintain safe, supportive environments (Australian Institute for Teaching and School Leadership, 2018), such as positive feedback in curriculum interactions, decreased in use across all participants. This data required further investigation into the selection of skills by teachers after the Classroom Profile program.

Influencing teacher skill selection

Participants reported a clear desire to use expectations and positive feedback to create productive teaching and learning environments in their interviews. Still, in the absence of student disruption, they did not use these teacher skills. The data from all the teachers showed a decrease in student disruption with no increase in teacher-student interactions. For example, in Rob's class, his interactions with students reduced from once every 8 minutes to once every 12 minutes. When students behaved, Rob left the class alone, not seeing the need for interactions, so students continued working uninterrupted. While this response is

reasonable, it questions the purpose of proactive teacher skills and their importance in retaining students working. Teacher observations reflected those teachers saw no need to interact when students were working.

Positive teacher-student interactions encouraged the continued flow of learning even during periods when students were working. The interaction's intention changed in that the outcome was for continued on-task behaviour rather than a return from off-task behaviour. Teachers reported gratitude for 'periods of silence and students working' and did not apply the Classroom Profile program's knowledge and skills to their teaching practices. The observation after the Classroom Profile program did not consistently demonstrate that teachers used proactive teacher-student interactions with high frequency to encourage more extended periods of on-task student behaviour. When asked about interacting with students who were working to reinforce those behaviours, Brett commented that he 'didn't want to interrupt students who were working'. The researcher became interested in how teachers perceived they interrupted the learning space when students were off task or on task.

Furthermore, questioning if teachers maximised opportunities for positive teacher-student interactions while students were working? These questions reflected consistency with the previous classroom management method based on beliefs that quiet work is productive work (Winett & Winkler, 1972). Trends in classroom practice reflected more reactive measures in participants' practices than proactive.

The restriction found in the Classroom Profile program was in the teachers' use of reactive over proactive skills, informed through the design of the training itself. The Classroom Profile program sequence of the skills based on their delivery of verbal versus non-verbal rather than an order that demonstrated which teaching practices would reduce the intrusion to students' learning more than others. From her confusion on which actions to use, Mandy said, 'I had never thought about how much my skills interrupted the learning of other students.' These findings support the notion that deliberate teacher choices in their interactions with students will minimise the public nature of behaviour conversations (Richmond, 2002), increasing the class's curriculum focus through reduced intrusion to the learning environment. The teacher played a fundamental role in retaining the curriculum focus even when there was unproductive student behaviour throughout the lesson based on skills when interacting with students.

The teacher participants spoke of their choices in classroom management as automatic responses. Rob stated he found his reaction to student behaviours were 'immediate' and felt he had 'little conscious thought' when responding to student behaviour in the classroom. These habits of practice reflected the likelihood of whether teachers would use strategies they were familiar with or believed had worked in the past over other teaching practices. Nick stated that he used teaching practices that were 'mostly from experience and some back of my head knowledge from training I did years ago'. The classroom observation data analysis became consistent that teachers used one or two specific teaching strategies. As habits form in teaching practices, the choices assessed in the decision-making process move to an increased state of unconscious competence (Cannon, Feinstein, & Friesen, 2014). This statement was true for participants in both groups in this study. Mandy shared that she tried to implement more 'positive strategies; it was so easy to revert to what I have done in the past'. Unconscious competence brings the potential to continue doing what is known without considering alternate or improved ways to make a final decision (March, 1994). The Classroom Profile program provided evidence of heightened awareness in teaching practices but limited evidence of changed classroom observations.

The findings also provided evidence that supported the association between reflective teaching practices and a heightened awareness of skills that leads to that practice. Fry, Klages, and Venneman (2018) discussed the benefits of reflection through journaling to increase awareness practice. Just because an old practice works does not render its best practice in current teaching practices. Nick added to his previous comments that the strategies he used from prior experiences made him feel he was 'not equipped to deal with certain behaviours in class'. At times he stated that managing classroom behaviours felt a 'little scary'. In states of unconscious competence, where awareness is less, the power of reflective practices is reduced due to the reality that reflection will occur on what is known. When making decisions with lowered levels of consciousness, it is challenging to utilise reflective practices when reviewing the impact of classroom interactions (Cannon et al., 2014).

Pam felt that the Classroom Profile program and 'all the other stuff we have done around behaviour management created a consistency across the school'. The observations demonstrated that the teacher participants consistently spoke about changes to teaching practice, but their teaching practices in classrooms were missing. This disconnect between acquiring new knowledge and the transfer to practice was evidence of the Classroom Profile

program's limitations. The literature referred consistently to the need to acquire new skills to be taught within the context of the impact of prior learning on a change to current practice (Balleine, 2019).

Recommendations, limitations, and future directions

Suitably qualified and competent teachers are drivers of a good quality education system, and sustaining such quality requires high expectations of professional learning programs that focus on improving teacher practices (Darling-Hammond et al., 2017). The inclusion of the skills taught in the Classroom Profile program to teaching practice was found to be creating the confusion of which skills to use in what order. When looking at patterns in the data, it was clear that the skills used were just as essential as the classroom environment's intrusion of those skills. After the Classroom Profile program, the skills chosen by teachers were influenced by the position on the observation sheet and hence their order of perceived preference when responding to student behaviours. The order of the skills taught in the professional learning program influenced the skills teachers chose. Of interest was the confidence in knowing the ESCM, yet the reduced ability to list them. This association with the term ESCM showed familiarity with the concept rather than the actual skills that would benefit classroom behaviour management practices. The study supported earlier findings by Hepburn et al. (2020) that teachers who refer to the ESCM showed familiarity with the ESCM rather than specific knowledge of the ten skills. The findings highlighted the important limitations of the Classroom Profile program and the observation checklist tool.

This study raises doubts regarding the Classroom Profile program's continued use with its current alignment with the ESCM. The purpose of any research is to build on what is known and strengthen avenues for continual change and improvement through investigation. It is proposed that the use of the ESCM as the foundation for the Classroom Profile program will continue to influence reactive teaching practices rather than reposition the teacher towards proactive teaching practices. A deliberate shift in professional learning for teachers would be to use proactive teacher skills over-reactive teacher skills would better situate the narrative around the curriculum rather than the current focus on disruptive students' management.

The first recommendation from this study is to raise awareness of school Principals of the impact that reactive teacher actions have on the classroom environment and their current use in policy and procedures. This awareness school administration and staff would be better

positioned to revise their in-school policy for student behaviour management with increased alignment between positive school philosophies and classroom management policies. It is proposed that a new framework inform school-based policies for implementing classroom behaviour management that focuses on proactive measures removed from punitive or reactive step systems of management in unproductive student behaviours.

The second recommendation is to develop a professional learning program based on this study that considers design features to increase recall of knowledge and skills to teaching practices through a combination of learning new skills and applying these skills. Principals would benefit by implementing whole-school approaches that would shift cultural change in teaching narratives around classroom disruption and the teacher's role in establishing and maintaining productive learning environments.

The final recommendation is to suggest designing and delivering a professional learning program for teachers to base a classroom observation process on reflective practices. This program would be based on the themes that emerged from the study, focusing on building productive classroom environments by reinforcing expected behaviours and reduction to interrupted learning through classroom behaviour management decisions.

This study's limitations restrict the generalisability (Miles, Huberman, & Saldana, 2014) of this research's results and need to be considered when interpreting the findings. Primarily, participants represent a non-random sample of teachers chosen with similar demographics, and while the findings are expected to translate to other similar settings, this should not be assumed. The sample size was kept small to allow for rich conversations, and the transference of these findings may differ across a large sample size. Larger samples sizes would make data analysis significantly more cumbersome and possibly miss the rich stories of individual experiences that this study provided.

Future research could include an increased sample across multiple settings and with a longitudinal approach. Additionally, evidence was based on teacher self-reports (Creswell, 2013), for which interpretation of results needs to be considered carefully. This paper sets the stage for future research exploring the implications of teacher skills and the impact of the intrusion of those skills to classroom environments and others learning. Furthermore, it sets the stage for designing a new observation sheet and reviewing the transference of knowledge and skills into teaching practices in this new professional learning program.

Conclusion

Teacher-student interactions are instrumental in the development of classroom environments. While this study showed several ways in which knowledge guides the development of teacher skills required to navigate the complex array of events that arise in classrooms, many aspects of making choices on teacher-student interactions to support positive classroom environments remained unclear. What emerged from the data were the importance of professional learning programs that provide knowledge of proactive teaching skills for deliberate decision-making. Furthermore, professional learning programs must include processes to develop reflective practices that encourage teachers to move away from habits of practice. A new professional learning program is required based on proactive skills that guide teacher decisions to make choices that lead to positive interactions with students providing interactions that are less intrusive to classroom flow.

The critical change in the approach to designing a new professional learning program would be a transition away from how to manage disruption and unproductive student behaviours to teaching methods that aim to reduce the disruption, to begin with. The teaching of relevant knowledge and skills that focus on proactive teacher actions rather than a focus on managing student disruption has the potential to change teachers' interactions with students for positive outcomes. This study has contributed new knowledge through a critical review of currently used classroom behaviour management programs providing evidence to guide future programs for teacher education.

CHAPTER 7 FINDINGS AND DISCUSSION PART C

Research is formalized curiosity. It is poking and prying with a purpose (*Zora Neale Hurston).*

7.1 Overview of the chapter

The previous chapters provided a critical review of the findings from Phase I of this study. Themes emerged from the early stages of investigation into how cognitive load and affect impact teacher decision-making through the interviews and observations in Phase I. From these findings, the limitations of the Classroom profile program based on the ESCM, were evident and these two key aspects from Phase I informed the direction of the new Four Dimensions framework. These limitations, themes and the review of the current programs used in Australian classrooms to support teachers in classroom behaviour management, led to the design of the Four Dimensions professional learning program.

In this chapter, the development of the Four Dimensions framework will be discussed along with the progression of the framework into a professional learning program for teachers in Section 7.2. An explanation of the Four Dimensions framework is provided in detail in section 7.3 and the chapter concludes in Section 7.4 with the chapter summary

The design and development of a one-day professional learning program based on the Four Dimensions framework aimed to provide teachers with the knowledge and skills that were not found after training teachers in the Classroom Profile program, based on the Essential Skills of Classroom Management (ESCM). As highlighted in chapters four and five, the study presented in this thesis uncovered the concepts and ideas that would inform the development of a teacher decision-making framework to increase reflection in their teaching practices. It was found that teachers' choices, in the decision-making process, were informed through their knowledge and are influenced by their confidence to apply skills associated with that knowledge. These choices influence the teacher-student interactions and the classroom environment and the impact of cognitive load and affect influence the decision-making process itself.

Classroom decisions are intended to create rich teaching and learning environments. This chapter aims to contribute to the process of continual research in professional learning and teaching practice through the design of a professional learning program that reflected the findings from Phase I in the study. The development of the professional learning program leads into the final Journal article in chapter eight, which presents the findings on the progression from the Four Dimensions framework to the Four Dimensions professional learning program.

7.1.1 Phase I and Phase II connected

With the objective of continual research being to build on what is known, to improve the direction of future research (Hennink et al., 2020), this study established a need to extend the original understanding of this study, beyond the scope of how cognitive load and affect influenced teacher decision-making. This, coupled with the literature reviewed in chapter two, clearly described the need for teacher education to be delivered in an intentional manner, targeted at creating supportive environments through proactive and positive interactions (Preciado et al., 2021).

The most recent research on classroom behaviour management programs in Australia was conducted by Hepburn et al. (2020) on the Essential Skills of Classroom Management. This study showed the reliance of the ESCM on more reactive, than proactive, teaching practices. The Classroom Profile training is based on the Essential Skills of Classroom Management, consisting of ten teaching skills (Appendix H) for teachers to use when responding to disruptive behaviours (Department of Education Training and the Arts, 2015c). In this union of the ESCM and the Classroom Profile program, the study was interested in moving beyond reactive professional learning programs for teachers to a professional learning program that reflected the important direction provided across international literature towards positive educational paradigms.

In developing the gap between the development of the Four Dimensions framework and the professional learning program, chapter three outlined both phases of this study, while chapters four and five explored the use of the Essential Skills of Classroom Management, as presented through the Classroom Profile program. In these chapters it was found that the Classroom Profile program, while providing definitions and a process to collect frequency of teachers use of skills in classroom behaviour management

practices through observations, did not provide a framework, nor the empirical evidence to build a framework, to encourage proactive teaching practices over reactive ones in the transference of this knowledge to teaching practices.

The participants, interviews and observations used for data collection in Phase I, reiterated the findings from the article by Hepburn et al. (2020), that of the ten ESCM, more are based in reactive teacher-student interactions than proactive. This demonstrated that the Classroom Profile program offered evidence on the acquisition of new knowledge and skills but coupled with the desire of teachers to improve their classroom behaviour management practices, the training promoted, through application of this knowledge to classroom practice, increased use of reactive teacher-student interactions. While there was an increase in the reduced public nature of teacher-student interactions, behaviour conversations continued to dominate these interactions through such skills taught as *close talk*. Whereby teachers moved from more public behaviour conversations to a less public behaviour conversations, their conversation focus remained on the behaviour in these conversations.

In addition to the findings from chapter six that highlighted the need of change to what teachers were taught, Phase I of the study illustrated areas in which specific design and modes to program delivery would benefit teaching practices. Based on a word search in the literature, for what would benefit teachers' professional development, the data were further analysed, by expanding the criteria of participants' language from a focus solely on classroom behaviour management practices, to the impact their teaching practices had on the flow of curriculum delivery.

The guiding principles to increased curriculum flow, which would enhance transfer of skills from professional learning to practice, were based on skills that enabled teachers' fast recall of knowledge and strategies which would increase ease of choice between multiple options when formulating classroom decisions. These findings were surmised in chapter five and the impact of cognitive load and affect were vital in creating appropriate space for teachers to undertake decision-making in highly complex and non-linear environments. These findings were of importance to the design of a professional learning program.

The aims for effective professional learning programs aligned with the findings from chapter five on the impact of affect and cognitive load on decision-making (Blackley et

al., 2021). Through a review of transcripts of interviews and the observation data, patterns in teachers' descriptions of their teaching experiences informed the themes that specifically identified differences amongst teachers with proactive and reactive teaching practices and the time spent on curriculum delivery. The teachers who reported positive affect to their teaching and classroom environment, had patterns on their observation sheets that showed a deviation from the Classroom profile training and the use of the ESCM to skills inclusive of *cueing, recognition,* and *preventative teaching practices*. In contrast, teachers who blamed others, students, society, parents, for their negative affect associated with classroom behaviour management, showed a higher likelihood to continue behaviour conversations, even if they did it with *close talk*. Close talk is one skill that is taught in the Classroom profile program to be used with high frequency.

Further analysis of the data from Phase I showed that teachers with less disruption moved their skills beyond those taught in the Classroom profile program. They chose interactions that went beyond the skills alone in which behaviour conversations dominated the classroom. This difference provided the foundation for an organisation, or order and frequency, to the teaching skills that represented a continuum based on the level of intrusion participants' teaching practices had on all students within the learning environment.

Another important consideration, in building the new professional learning program was the knowledge and skills developed in teachers on how they viewed others' teaching practices, and the lens in which they observed others' teaching. The Classroom profile program, while stating an intention to be non-judgemental, promoted one to two teachers within a school as 'the observers.' This developed a belief, which was communicated by participants in interviews, that the expertise was held with a few, rather than the view that the expertise is in fact the teacher down the hallway.

The findings from Phase I of this study supported the importance of a strengths-based approach and a structured process or framework to inform teaching practices, and to encourage teachers to be in each other's classrooms (Allen et al., 2019). This can only come from a model where all teachers have access to the knowledge and skills to observe others in their practice. The data collected increased the need for understanding if the newly developed Four Dimension framework offered teachers the necessary knowledge and skills, and the underlying concepts of understanding, to implement the knowledge and skills into their teaching practice. Additionally, it was interesting to note the increased confidence in

observing others teaching through a framework of teacher-student interactions and what teachers do differently, over observation based on opinion. A framework provided as sense of organisation that led teachers to observe without judgement. This chapter provides the information that bridges the gap between Phase I and Phase II of the study.

Phase II was then established to design such a framework that would focus on incorporating the knowledge and skills that were deemed essential from both Phase I findings and across the literature (Altan, Lane, & Dottin, 2019; De Nobile et al., 2016; Glynn, 2017). The new design of the professional learning program was based on the findings around the Four Dimensions framework. This chapter explains the initial process used in the development of the Four Dimension framework, which then formed the foundation for the design of the Four Dimensions professional learning program in teacher decision-making. This progression from a review of the current Classroom Profile to the Four Dimensions framework to a Professional Learning Program to the foundations for future classroom observations base don't eh Four Dimensions is shown in Figure 7.1.

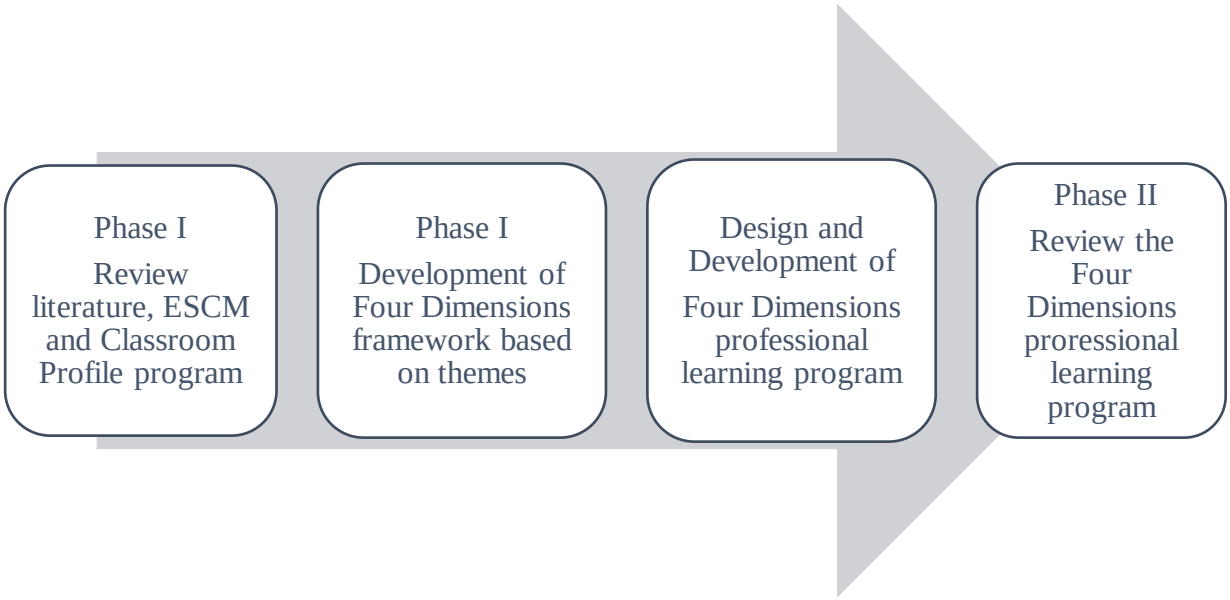


Figure 7.1. Progression from ESCM to Four Dimensions

From the data collected, using the Classroom Profiling program, classroom observations and interviews in Phase I of this study, the skills used to manage classroom disruption were aligned to one of the Four dimensions: *Expect*, *Reinforce*, *Redirect*, and *Follow through*, these are referred to as the *Four Dimensions framework*. Through Phase I's findings, every teacher decision in classroom behaviour management led back to one of these Four Dimensions based on the collection of teacher actions, as described by the teacher participants, in the interviews.

The Four Dimensions framework, therefore, was built around the skills that were most frequently used to: establish classroom expectations *(Expect)*; the skills used to *Reinforce* those expectations; how teachers would *Redirect* inappropriate student behaviour and finally, the skills used to *Follow through* on disruptions. The Four Dimensions are graphically presented in Figure 7.2.

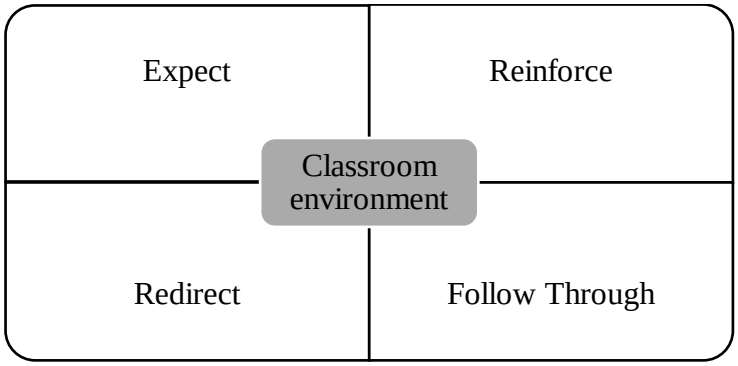


Figure 7.2. Presenting the Four Dimensions of the Four Dimensions framework

Each of the Dimension will be discussed in detail later in the chapter. The Four Dimensions that emerged from Phase I were:

1 *Expect*: Refers to the rules and standards expected to be met by students for both curriculum and behaviour.
2 *Reinforce:* Described through words and actions, reminding students that they have met the stated expectations by recognising those student behaviours through teacher interactions.
3 *Redirect*: Refers to how teachers respond to unproductive behaviours with the intention to return students to the learning; and
4 *Follow through*: Refers to the consequences applied to students who do not meet expectations.

7.1.2 Design of the Four Dimensions professional learning program

Keeping in mind the findings from Phase I of the study and the gaps found in teaching practices after training in the Classroom Profile program, the new Four Dimensions framework was based on the findings from this qualitative study using thematic analysis to review and develop the themes already found from prior coding (Castleberry & Nolen, 2018). To ensure evidence-based practice, the Four Dimensions framework was used to inform the

design of the Four Dimensions professional learning program. It provided empirical evidence on teacher decision-making processes and the importance of combining knowledge and skills to teaching practice that enabled quick recall and reduced negative affect in teaching (Blackley et al., 2021). The key inclusions of the framework, used in the professional learning program, were then incorporated into the cover sheet of the classroom observation tool for Four Dimensions (Appendix K and L).

In response to the findings presented in chapter five and six, the development of a professional learning program that included these findings was the next logical step. To add to a continual cycle of improvement, the data were reviewed again to collate the teacher skills observed with two guiding themes; reduced intrusion to the flow of learning and increased use of proactive skills to reduce the likelihood of requiring teacher attention to mild student disruptions.

The review consisted of revisiting the transcripts from interviews and the data from observations and through triangulation, comparing the balance between stated and actual practice of participants. Through recounts of practice and affect attached to reactive teacher actions teacher accounts of their classroom environments provided the lens for the new way of viewing teacher-student interactions.

It was evident that teachers would benefit from a framework design that was centred around the priorities of teacher-student interactions which reflected the level of intrusion these actions have on the classroom environment. Conversations with participants highlighted that they perceived benefits in knowing what teacher skills would impact positive teacher-student interactions. It was also evident that a clear sequenced, based on the level of intrusion teacher interactions would have on others' learning, would benefit teacher time taken in considering choices in teacher-student interactions. For example, Leila found that *knowing what to use first made it simple;* Mandy also referred to the *simplicity of the Green and Amber zones*.

Using the simplicity of the themes that emerged from teacher interviews, the Four Dimensions framework trained teachers in two considerations when considering choices, to inform their decision-making, in teacher-student interactions. These two considerations or two zones, are *Green and Amber*, to guide the decision-making process when interacting with students. *Green zone* includes all teacher actions found in *Expect* and *Reinforce,* while *Amber zone* consists of all teacher skills found in *Redirect* and *Follow through*. That is, the

two zones reflected how teachers' choices in their decision-making would influence their interactions with students and hence their teaching practices and the classroom environment. Teacher-student interactions in creating productive teaching and learning environments were becoming evident as critically the most crucial element that impacted the classroom environment initiated through intrusion to others in the classroom. This brought into question the overuse of the term classroom behaviour management to encompass the tone for the teaching environment as well as the response to disruptive student behaviours. The study was finding these two, while related, served very different purposes in teaching and learning. Classroom environment is established through teacher-student interactions, and when teachers chose certain interactions, they potentially reduce the need for classroom behaviour management.

The new professional learning program was based on the Four Dimensions framework that focussed on the teaching skills of *Expect*, *Reinforce*, *Redirect*, and *Follow through*. These four categories were the drivers of the skills to be included in providing teachers with a structured framework that encouraged interactions that would reduce interruptions to learning flow. From the Four Dimensions framework, the Four Dimensions observation sheet (Appendix I through to L) was designed based on this study's findings to provide a framework with clarity of order on teacher skills that were more and less likely to change curriculum delivery flow. Before designing the workshop for Four Dimensions it was imperative to align a classroom observation with the new themes and knowledge from the findings of this study, to best reflect what to include in the professional learning program.

While the observation sheet was not used to collect data for this study, it was seminal in developing the workshop on Four Dimensions. The observation sheet was designed to capture the link between the instructional and environmental context influenced by teacher-student interactions, with the cover sheet containing the work from the professional learning program (Appendix K and L). One half of the sheet included the *instructional context* of teaching, and the second half of the sheet provided the frequency of teacher-student interactions that established the classroom environment, the *environmental context*. In designing the sheet for the environmental context, teaching skills were ordered based on their likelihood to cause ore reduce intrusion in the learning environment, and thus change the flow to the learning process.

In the Four Dimensions classroom observation, the teacher interactions with students that redirected unproductive student behaviour, yet did not intrude on other students' curriculum focus, were defined as a redirection with a curriculum focus (Rogers, 2011). However, these skills were further reduced to those with less or more intrusion into others' learning environment based on their public and non-public delivery. Those with less intrusion were differentiated from redirection of more intrusion through their purposeful intent of language used based in Dimension One and Two. These practices were able to be aligned to the groups of students and the continua from chapter two. These are represented in Table 7.1.

Table 7. 1 Alignment of Teacher actions and student behaviours

Four Dimensions focus	**Teacher actions**	**Student behaviours**
Dimension One *Prevention*	Expectations Cueing Peripheral vision Non-verbal instruction Verbal instruction Classroom Scan	All behaviours with the intent to reduce the likelihood of behaviours occurring in the majority to provide time and space for the few students who need teacher direction
Dimension Two *Recognition*	Instruction encouragers Reinforce and Recognise Descriptions of positive reality	Reducing the students who are sometimes on task and occasionally off task with the intention to keep them on task longer
Dimension Three *Reduce intrusion to others learning*	Selective attending Curriculum refocus Cue through others Proximity Non-verbal redirections Questions to redirect Close talk Humour to redirect Pause in talk Students' name called Verbal redirection	**Less intrusive** Students who can be redirected to the learning for low level disruptions through less intrusive actions **More intrusive** Students who need discussion around specific behaviours through closer individualised talk or when safety issues are a concern.
Dimension Four *Remain in classroom*	Indicate post-lesson discussion Give choice Follow Through	Managing students with persistent or increased disruption out of class time

7.1.3 The Four Dimensions framework

Teacher-student interactions became the key change of focus moving from Phase I into Phase II of this study. Teachers who reported success in creating productive teaching and learning environments recalled teaching practices rich in positive interactions with students. These accounts by participants did not discriminate between students who were behaving and those who were disrupting. This demonstrates that student behaviour does not necessarily cause teacher frustration, but a lack of knowledge and skills on reducing the disruption would. The common thread was that all students were given a chance to self-correct and / or to return to curriculum-based activities in the group of teachers who used a Green footprint in their interactions. The interactions with students demonstrated that the difference between teachers lay within the way they initiated a conversation with a student who was off task. The teachers who started a conversation with comments regarding what was expected or how those expectations were being met, were found to have overall incidence of reduced disruptions in their classrooms. These types of conversations were seen to put the curriculum in front of the behaviour management conversation and also added to a sense of calm and a flow to the lesson delivery.

In comparison, the teachers who felt they had limited success in creating productive classroom environments recalled interactions with students that included more conversations around disruptions rather than curriculum, suggesting that behaviour was the basis for a conversation to return students to work rather than a focus on curriculum alternatives. This development of the observation sheet based on the themes from interviews and observations, was the foundation informed the development of a program for teachers based on the Four Dimensions Framework. Each Dimension provided skills to inform the decision teachers would make when interacting with students to create productive teaching and learning environments.

The development of the Four Dimensions professional learning program can be understood when each classroom practice is seen as a dimension that informs the choices considered in teacher decision-making. The decisions made by teachers influenced the classroom environments in which they teach, and students learn. After the data from Phase I of the study were analysed, further research was needed to address:

- the design of the training program,

- training teachers in the Four Dimensions Framework, which led to the design of a one-day training program, and
- collecting evidence on the impact of this training on teaching practice.

The findings from the Phase I data analysis established that training in the Classroom Profile program (Department of Education Training and the Arts, 2015b) did not provide:

- a clear and concise framework for teacher decision-making,
- a consistent approach to teacher-student interactions based on reducing interruptions to lesson flow, and
- an alternative to the Essential Skills of Classroom Management to guide teacher responses to student disruption, which are more reactive than proactive in their nature (Hepburn et al., 2020).

The teacher participants reported that their ways of working after the Classroom profile program returned to similar habits prior to the training. They reverted to old habits of practice. Habits of practice are difficult to change, requiring time and intentional focus on skill development (Balleine, 2019). This common thread, to challenge and change old habits of practice, was apparent across all participants. Historical or habitual practice was difficult to change (Ceceli & Tricomi, 2018).

The Four Dimensions observation sheet provided the clarity teachers needed in considering choices for classroom decision-making regarding an order in ways to respond when students were not meeting expectations. The Framework recognised the importance of firstly setting high expectations (Chaplain, 2016) and establishing initial teacher-student interactions in identifying the students meeting those expectations before addressing any off-task students. The intention behind this initial interaction of *Reinforce* was developed to increase the likelihood of more and more students looking for positive interactions and moving to on-task behaviours. For this to be effective, the knowledge would need to be taught in the professional learning program of the importance of high frequency for appropriate behaviours when expectations are stated (Brunzell, Stokes, & Waters, 2019).

The result of increased positive teacher-student interactions for appropriate student behaviours would be the decrease in the number of students not meeting expectations (Horner et al., 2009), secondly diminishing the intrusion of teacher actions, when managing behaviours, to the learning environment through less reactive/intrusive teacher actions

(Hepburn & Beamish, 2019) and thirdly creating time and space for students who needed extra support for behaviour or curriculum-based needs through balancing the use of Dimensions One, Two and Three, which are less intrusive skills. This study found the themes that would benefit the development of a new sheet and were the foundations to the one-day professional learning program. Future research would design and trial a sheet based on these findings to train teachers in the Four Dimensions professional learning program to better understand its transference to classroom practice.

The final inclusion of skills in the Four Dimensions framework was established based on the findings throughout Chapters Four and Five. To align with teacher discourse from the literature around classroom management (Aydin & Karabay, 2020), the skills were collated based on their level of intrusion into the flow of curriculum delivery and their intention to reduce disruptions through proactive focus. Of consideration to the program's design was the need to combine skills in teaching practice with knowledge regarding how teachers decide which skills to use. The order of skills on an observation sheet was not believed to be sufficient in changing teaching practice. Chapter five provided the findings on teacher frustration linked to affect and cognitive load. In designing a professional learning program for teachers, it was necessary to include how teachers viewed and assessed their choices that would influence their teaching practice.

7.2 From a framework to a professional learning program

Considering what has been established in the findings from the teacher interviews and observations in Phase I indicated the need for quick and easy recall on knowledge learned to increase the likelihood of better choices in decision-making, the act of satisficing (Oh et al., 2016). To achieve this ease of access to options in deciding on the interaction that was to take place with students, teachers require a *flow* in teacher-student interactions to inform teachers of skills that were likely to be less intrusive to the flow of curriculum delivery.

The researcher found that the *flow* of a lesson was influenced by the teacher's interaction with students, and this was of interest when observations of the same students in multiple classrooms demonstrated different behaviour patterns. In each case the patterns of how teachers interacted with their students were found to have similarities. This pattern was what led the researcher to dig deeper into the underlying decisions that informed the choices teaches used to respond to unproductive behaviours. These interactions either increased the

flow of curriculum delivery or were found to interrupt the flow of curriculum delivery. Unlike previous research that focussed on the behaviour of the student, Phase II focused on the behaviour of the teacher. The choices made by the teacher in the classroom interactions.

The teacher reflections from interviews, and the evidence supporting these reflections, from observations, were the foundation for the design of the Four Dimensions professional learning program. The Four Dimensions framework provided a structure to guide the design of the program based on teacher decision-making when interacting with students to increase positive connections while reducing public conversations around behaviour that interrupted the flow of the learning.

It was clear that the professional learning program would need to include sessions based on:

- How society has changed, and how the role of the teacher has shifted within this change:
- How decision-making influences, the classroom environment; and,
- An outline of the Four Dimensions in practice.

In defining the skills to be taught to teachers and the knowledge that underpinned those skills, the findings presented in chapter five and six guided this development. The teacher skills were able to be reduced to a clear set of four themes referred to as the *Four Dimensions framework*. Each Dimension was established based on findings from Phase I of the study. For example, based on teacher references to the use of the word of expectation and their frequency of use from observational data in classrooms with reduced disruption and increased curriculum time, all comments associated with expectations formed one theme. This reduction process was continued across all interview transcripts and classroom observations, resulting in three different areas of consistency. Every decision or response made by a teacher in teaching practices aligned to one of these four dimensions, the foundation for the Four Dimension framework. From this work in Phase I, the need arose for a program to be designed based on this Framework to inform teacher decision-making in classroom interaction to provide the knowledge and skills to increase supportive teaching and learning environments. The sorting of teacher actions that influenced productive teaching and learning environments, under each of the Four Dimensions were the basis in choosing what skills were most important to include in a one-day professional learning program.

7.2.1 Dimension One: Expect

The first Dimension, *Expect*, reflected teacher skills of establishment and articulation of expectations (Llewellyn, Boon, & Lewthwaite, 2018), or rules, that students would follow along with the need to set up regular reminders based on these expectations (Reveley, 2016). Phase II included a 20-question survey to establish the influence of the Four Dimensions professional learning program after teacher participants had attended the one-day workshop.

Survey responses supported the benefits of clear expectations; c*oming back to my expectation more frequently provided clarity in my classroom; I am more conscious of what my expectations are, and they are now a point of reference in my classroom*. Other responses reflected the impact on classroom environment when expectations were clear and regularly referred to, such as *the impact was calming and ensured children had opportunities to focus on curriculum; referring to the expectations helped me remove the emotion when students 'get to you'*.

The interview and observation data supported these comments by a teacher from within the survey. These data sets demonstrated that teachers who used more positive teaching practices provided evidence of both verbal and visual teacher skills in classrooms delineating the classroom expectations, along with regular episodes of looking around the classroom and interacting with students (Muna, 2019). Greta stated that teachers *set up expectations to create the best teaching environment*.

The evidence from the observations supported that a teacher with clearly stated expectations had less student disruption and required teachers to repeat the same redirection less often. Suggesting that to refer to expectations, the statement of them for clarity at the start of each lesson and within the activities themselves, adds to classroom flow. The dimension of *Expect* would include the teacher actions that focused on setting up the teacher expectations in curriculum and behaviour. Therefore, these would include teacher skills that cued the expected behaviours (Leslie, 2018) and skills of peripheral vision that provide teacher awareness of the students meeting those expectations (Dix, 2017). Greta found that she had *increased her use of peripheral vision*.

From this research and the teacher participant's interviews, peripheral vision was evidenced to be one of the most necessary skills for teachers to increase their awareness of what was occurring in their classrooms. Thus emerged the need that peripheral vision was essential for teachers to not only raise their awareness in classroom environments, but

secondly, to change habits of looking for inappropriate behaviours to students meeting expectations.

The teachers who demonstrated a higher frequency for reference to their expectations also had a different trend line on their observation sheets. A trend line shows the skills most used by a teacher. In classroom observations with a high frequency of expectations stated and referred to, teachers reported through their survey response that they had a more supportive classroom environment. One teacher stated that *I have a calm and friendly classroom environment when I set my expectations and refer to the classroom charts regularly*.

The research around Positive Behaviour for Learning, developed in the United States (Gage et al., 2015) and then further evolving from research in New Zealand (Reddy et al., 2017), found that the use of artefacts to establish and maintain productive teaching and learning environments is beneficial (Broskey, 2017). The findings from Phase I in this study demonstrated that teachers who frequently referred to expectations through verbal or non-verbal means reported improved supportive learning environments.

While evidence was found that student behaviour can be shaped through positive interactions (Girardet, 2018), the knowledge of, and the inclusion of the regular reference to set expectations can change student behaviours when expectations are delivered with clarity and increased frequency. When the adults change the way they interact with students, the classroom environment will also change (Dix, 2017).

The setting of expectations and the teacher's intent to scan their room looking for students meeting the teacher's expectations will do little to change behaviour if teachers do not interact with students. The second Dimension of *Reinforce* established the knowledge and skills chosen for inclusion in the Four Dimensions professional learning program based on evidence from Phase I and Phase II on the differences found in classrooms with increased positive teacher-student interactions.

7.2.2 Dimension Two: Reinforce

The second classroom Dimension, *Reinforce*, referred to interactions around positive student behaviours and included positive teacher-student interactions (McGarrigle et al., 2021). The transcript data collected from interviews with teachers, included evidence of the following: positive feedback; gaining student attention; and stating the positive behaviour of

students doing the right thing through describing positive student behaviours that met expectations. In the observational data, teachers used statements to *Reinforce* what students were doing. The researcher noticed the moments observed when teachers interacted with students through language based in reinforcement around curriculum and/ or behaviour were changed the students' focus towards the curriculum.

In comparison, those teachers who had completed Four Dimensions professional learning, stated that students were *quicker to start learning,* while another participant found that *I do not have to wait for students to stop talking anymore.* One survey response stated that *it is a quieter classroom, as expectations and reinforcement encourage the behaviour I want to see.* Another teacher responded by stating that, g*iving positive attention, I had them eating out of my hand straight away, I have reduced having to ask student to stop disruptive behaviours.*

The Dimension Two of *Reinforce* was established as inclusive of teacher skills that were not intended to praise a student (Rogers, 2015) but rather encourage the likelihood of students repeating the behaviour expected through positive teacher-student interactions. One teacher responded that *students are doing the right thing and are appreciating being acknowledged.* Students respond to interactions that let them know they are doing the expected behaviour (Slee, 2015), and this was a shift from the positive feedback used in the Classroom profile program to the new Four Dimensions. Intentional interactions based on Dimension One that reinforced the behaviours wanted in classrooms.

This study demonstrated that the higher the frequency in teacher-student interactions around appropriate behaviours the more likely the increase in the incidence of those positive behaviours. In the literature, the same was found in negative teacher-student interactions (Gillies, 2011); when the focus is on negative behaviours, they are more likely to reoccur. If teachers stepped into punitive or negative interactions, in response to a student seeking to gain adult or peer attention from their disruption, they learned to access that attention through negative interactions. When teachers shifted the interaction to a curriculum focus or one of selective attending, students learn to access adult attention through appropriate interactions.

The Four Dimensions framework focused on building positive teacher-student interactions to encourage repeated positive behaviours in classrooms, and this needed to be included int eh professional learning program. Under the first two dimensions, strategies listed: *Expect* and *Reinforce* uncovered an expected benefit to teaching practices. These positive teacher-student interactions led to a classroom environment focused on curriculum

and acknowledgement that led to reports from participants of increased classroom learning. Brett commented on the change to the 'feel of the classroom' when he interacted with a student doing the right thing through teacher reinforcement skills. Leila agreed that a focus on students meeting expectations changed the environment, noting that *other students also changed their behaviour, and the room was more about the curriculum.*

In these instances, of choosing interactions that started with restating an expectation or recognition of appropriate behaviours, the teachers reported a sense of success and increased productive teaching and learning environments. For example, Mandy commented on the positivity of the interactions, and similarly, Nick reported he was *teaching differently but enjoying the teaching much more.* In the classroom, a teacher is required to address and attend to students' behaviours that disrupt the learning of others or periodically take the students themself away from the task of learning. In such instances, teachers are redirecting the behaviours of the student. In historical contexts, these redirections took the form of public interactions that could increase behaviour conversations while reducing the curriculum conversations. Phase I data demonstrated the possible options available for teachers to shift the way they interacted with students when redirecting behaviours to minimise the impact on others. Redirections are discussed next to establish what defined them in the Four Dimensions framework.

7.2.3 Dimension Three: Redirect

The third Dimension, *Redirect*, included teaching skills used in response to unproductive student behaviour. The researcher noticed important patterns in the way that students responded to teachers' redirections in the classroom. Redirections are teacher actions used in response to students who are not following classroom expectations (Beuchert et al., 2018). A continuum of student behaviours was presented in chapter two, Figure 2.6. Student behaviour range from low-level off-task behaviours such as looking out the window, through to aggressive behaviour that stops many students' learning (Bozkuş, 2021). The study demonstrated that when teachers used more instance of *Expect* and *Reinforce* in their teaching practice, no matter what the student disruption as, the data recorded in actions of *Redirect* often reduced. From the survey used in Phase II, one teacher responded that *I am less stressed; I am no longer waiting and find that responding to at least two positives that the negative behaviours are less.*

More interestingly was that teacher redirections themselves became seen as three distinctly different forms of teacher response. The first were redirections that were based on curriculum interactions and paved the way for an easy return to the learning environment. The second teachers were able to respond to disruptive or off-task behaviours, with minimal impact on the other students in the classroom and finally the third were interactions with students that stopped other students from working. One example was evidenced in a teacher's statement that *I have definitely changed the way I interact with late students to class, with my processes and conversations are more positively structured.*

By the very nature of their existence, redirections can disrupt or interfere with the learning of other students; based on their delivery in the classroom environment (Rogers, 2015). Teachers can interact with a student in a public or non-public manner when addressing behaviour concerns. These teaching skills potentially have differing degrees of intrusion to the learning environments of all students in the classroom (Egeberg et al., 2016). Greta recalled instances where *teachers blow their top and get into arguments with kids,* referring to the impact this has on all other students in the classroom, not just the student who has done the wrong thing.

The level of intrusion to other students learning was emerging as a consistent consideration in teacher narratives yet was not evidenced as a driving force in decision-making in teaching practices based on the observational data. This demonstrated a shift in knowledge but did not match the training conducted with teachers through the Essential Skills of Classroom Management or their use in the Classroom Profile program. The Four Dimensions framework was focused on finding the balance between the four dimensions that would optimise positive and supportive classroom environments and were linked to teacher cognitive load and affect (Blackley et al., 2021). To achieve this, teachers need the knowledge and skills to align with design in the professional learning program to provide transference in teaching skills to classroom practices. It was a recurring theme that understanding how teachers make decision in classroom practice was essential in the new professional learning program.

7.2.4 Dimension Four: Follow Through

The final Dimension, *Follow through*, was used by teachers when they felt the need to apply a consequence to students with unproductive behaviour in response to instances

whereby students had broken or not met classroom expectations (Eggleston, 2018). In the Phase I data, participants recorded no instances of Follow through in either classroom observation. This could be due to participants conducting a moment of Follow Through after class, which is that the classroom observer had left the classroom already. Students' engagement in that lesson, the activities the teacher prepared or that no Follow through was required at the point in time the observation occurred. In the transcripts from interviews, Nick noted that he used to Follow through less the more explicit he was in his expectations, stating that I *do not doubt myself, and I don't have many behaviour problems. I always start with expectations because if they do not know how on earth can know what they should be doing?* The knowledge of changes in teacher-student interaction was evidenced through interviews. It was the transference to teaching practice that was still missing.

The need for *Follow through* was significantly reduced by the second observation, the teacher responses to Phase II survey Question 14, several teachers referred to the need for *Follow through* to support classrooms' expectations. Words reflected the metalanguage used in by participants to describe their understanding of *Follow through* and included:

- *consistency,*
- *build relationships, and*
- *connections through respect and the need for clear expectations.*

These responses would be expected in teachers following the professional learning program around the Four Dimensions framework, as the use of *Follow through* would happen outside curriculum time or with limited inclusion of others student in the classroom. The data from Phase I also found that teachers who used a higher instance of *Expect* and *Reinforce* were using *Follow through* less often than their colleagues who had reduced use of *Expect* and *Reinforce* in classroom interactions. The Four Dimensions professional learning program supports a 'curriculum first' mindset, with a reduced public display when managing or following through on choices that have been given. In these cases, the *Follow through* would be more likely to occur after a lesson or outside curriculum time. This was found in the statements of teachers through both interviews and survey responses. Leila stated her shift to

> *now choosing to speak to students at the end of the lesson, rather than stopping the learning, as it is about value adding. Adding value to the individual and that relationship through respect. Adding value to the curriculum by prioritising its place.*

7.3 From Framework to teaching practice

The Four Dimensions were now clearly defined, enabling alignment between teacher narratives and classroom observations on what would be the basis for a safe and supportive classroom environment. The interactions between a teacher and student were found to have a more positive affect when based on comments related to classroom expectations and recognising the expectations for curriculum that were being met before leading into conversations about behaviour. The second focus on these interactions was reducing the public nature of teacher-student interactions regarding addressing disruptive behaviours. These teachers reduced the intrusion of their classroom management practices on the students who were still working. The importance of how the decision-making of a teacher impacts the flow of curriculum delivery was referred to as the intrusion to the learning.

The process of decision-making would need to be a priority in the content of this program, as shown in the conceptual Framework of the study in chapter two. Furthermore, the program's design to move teacher skills from reactive to proactive teaching practices, combined with teacher decision-making knowledge and skills, can be best represented through Figure 7.3.

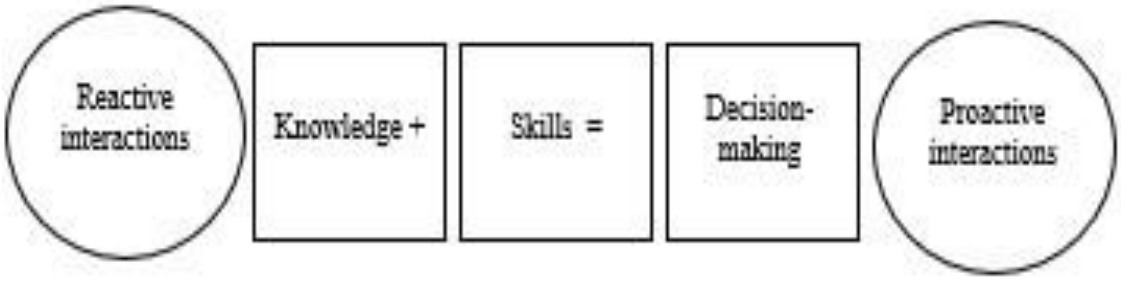


Figure 7.3. Shifting from reactive to proactive teacher skills

In designing the program, based on the themes of the Four Dimensions framework to initiate training programs, the Four Dimensions professional learning program was created as a one-day introductory training program that was divided into three core sessions based on knowledge and skills in:

- introduction to changes in decision-making,
- understanding Dimension One and Two, and
- understanding Dimension Three and Four.

The program as based on the evidence gained through this study and the findings presented in chapters two through to five.

7.3.1 Knowledge and skills for classroom observations

Chapter six outlined the differences between what teachers thought they did in the classroom to the actual practice observed. (Hattie, 2003) has purported that the teacher makes the difference and that more difference lies between teachers than between schools. Likewise, the differences between teachers were found to be evident in how they entered the interaction with a student from the findings presented in this study. Furthermore, the process of decision-making and how teachers should apply this knowledge to their teaching practices lay in the evidence found between the differences in classroom observations.

Phase I participants, with few classroom disruptions, were more inclined to have data in peripheral vision and *Reinforce.* In contrast, those with more disruption were found to have a higher incidence of interactions around redirections. Likewise, teachers who used more proactive teaching practices were more likely to have students return to work and to not repeat unproductive behaviour, as evidenced from their observation data.

This information was vital in designing the program that would include content to persuade teachers, who were set in their older habits of practice, the benefits of changing their practice through a simple shift in how they initiated their interactions with students. One survey response supported this goal was achieved, when a participant stated that *managing behaviour requires a conscious thought, it is a journey, and your behaviours may not necessarily change overnight. It is, however, a positive step in the right direction.*

At this point in the study, it was evident that current teaching practice was working. Teachers who used more reactive than proactive teaching skills did stop unwanted and disruptive student behaviours in their classrooms. The study found that teachers wanted student disruptive behaviours to stop, and training in behaviour management programs often achieved this. What this study uncovered was that stopping behaviour is not sufficient. When a student stops a behaviour, if behaviour change does not follow then teachers are continually responding to the same student for the same behaviour infringement repeatedly (Wolff et al., 2021). Without behaviour change, teachers must interact with students repeatedly over the

same behaviours, which is causing a level of frustration and exhaustion with no change in student behaviours for an extended period of time.

Repeatedly doing the same action with little change in response is well recognised across the literature as linked to negative affect, with such feelings as frustration, anger and futility (Skaalvik & Skaalvik, 2021). A high correlation between frustration and negative affect, which leads to teacher attrition (Weldon, 2018), was found in teachers who used more reactive strategies, surmising that while these reactive teacher actions are effective in stopping behaviours, but not reducing the incidence of these behaviours. Reactive teaching skills stopped behaviours for a short period and the same students are likely to repeat unproductive behaviours causing teachers increased frustration (Borman & Dowling, 2017). Teachers needed a program that provided the skills along with the knowledge on why these changes in choosing skills when interacting with students would benefit their teaching practice.

The teachers' techniques in their interactions to manage student disruption either drew attention to the unproductive behaviour or took attention away from the behaviour (Overland et al., 2020). Participants challenged the flow of skills on the Classroom Profile program through asking questions about what their classrooms would look like if they had chosen strategies that were less intrusive to others' continued learning. Mandy wanted to know why she would *use pause in talk before using questions that did not focus on the behaviour*. Nick also commented on the impact pause in talk had on his classroom, stating *everyone stops and looks, it's like so quick, and it works*.

The researcher observed that the three most intrusive actions that stopped the curriculum flow were pause in talk, calling a student's name and verbal redirections. Interview transcripts supported this observation with teacher reflecting through conversations about how the teacher-student interactions of pause in talk, call students name, and redirection impacted the whole classroom. Furthermore, Greta reflected on using less intrusive actions and how the training did not leave her feeling she should be *using individual close talk, non-verbal redirections, or proximity before pause in talk*.

Teachers shared their concerns of the emotive state they attached to decisions made in the classroom. Often a quick response to classroom behaviours frustrated them and the likelihood of repeating the same behaviours even when the outcome was not what they had intended was the end result. Many teachers cited that if they had more time to think through

the options or felt supported to try new responses without the criticism of colleagues or the school, then their actions may have been different. What was evident across all teachers, was their awareness of the influence of various external and environmental factors, such as staff expectations, organisational culture, organisational values, and personal experiences, on the choices used in making the decision.

7.3.2 Balancing acknowledgement and correction

It is important to note that beyond the skills identified in the study, was the balance between which skills to use that acknowledged students meeting expectations and the skills that corrected inappropriate student behaviours. The balance amongst the teacher skills used to manage student behaviours was established early in Phase I through interviews from teacher participants. However, it was not until the data were collated in Phase II that there was found to be a distinct difference in the skills used at the start of a teacher-student interaction among teachers who reported success in creating productive teaching and learning environments and teachers who felt they did not.

The Four Dimensions were further reduced based on the initial choice in teacher-student interactions. There were two distinct options for teacher-student interactions based on the intention of the teacher and the behaviour of the students. These two *zones* were called the *Green zone* and *Amber zone.* The Green zone was filled with teacher interactions that were based in terms of *Expect* and *Reinforce,* while the Amber zone was a collection of teacher actions that were based in *Redirect* and *Follow through*. The importance of how the decision-making of a teacher impacts the flow of curriculum delivery was referred to as the intrusion to the learning, or the interruption to the flow of learning.

The balance of these interactions found in productive teaching and learning environments were found to be approximately 80% Green teacher actions (Expect and Reinforce) and 20% Amber teacher actions (Redirect and Follow Through). The balance of Four Dimensions in productive teaching and learning environments can be seen in Figure 7.4.

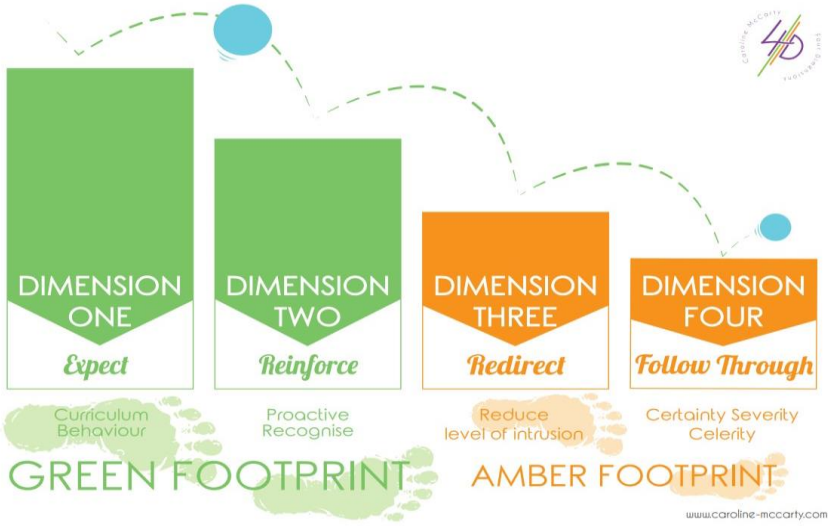


Figure 7.4. Four Dimensions graphical representation

The responses from interviews found that those who reported a sense of success in their teaching practice were observed to begin conversations with students in the Dimensions of *Expect* or *Reinforce* approximately 80% of the time. These are interactions that refer to expectations through proactive referrals and acknowledgement of those expectations being met. These same teachers described the need for corrective interactions (*Redirect*) or the need to *Follow through* approximately 20% of the time. This balance was found when data from the survey answers were analysed using SPSS and combined with coded data on teacher responses in interviews on the skills used to establish productive teaching and learning environments is demonstrated in Table 6.2.

Table 7. 2. Balance of teacher interactions using Four Dimensions framework

Name	**Interaction**	**Dimension**	**%**	**Cumulative %**
Expect	Proactive	One	81.6	84.6
Reinforce	Acknowledge	Two		
Redirect	Reactive	Three	18.4	100.0
Follow Through	Correct	Four		

To apply skills in reflective practices, evidence of the skills used, needed to be made clear and easily understood by teachers in a professional learning program (Kuswandono, 2017). From the findings presented in chapters four and five, the data revealed themes in teacher discourse used to describe their knowledge and skills that incorporated all

classroom decisions a teacher would make in their teaching practices. Teacher knowledge and skills associated with productive teaching and learning environments, such as happiness and satisfaction in teaching found throughout the literature (Addimando, 2019; Glynn, 2017), were reflected in teachers' comments. The desire for classrooms that are managed without interference to the flow of learning was prevalent amongst teacher stories.

Another example from the literature was the supported use of proactive teaching practices to keep students on task (Overland et al., 2020). The findings from chapter five demonstrated the clear alignment of positive teacher affect to productive teaching and learning environments, alongside the benefits of reduced cognitive load for positive teacher-student interactions. When teachers felt positively about their teaching and learning environment, positive teacher-student interactions were recorded more frequently in their classroom observations.

Continued learning provides productive teaching and learning environments and reduces teacher negative affect and cognitive load. When a classroom, or group of people, are considered in a grouping pattern of three, it is easier to identify ways of interacting with each. For example, Group I students work no matter whose classroom they are in, Group II students work in most instances but are also easily distracted from the learning and Group III are students who have complex needs through behaviour and or curriculum support and need more teacher time and space. Figure 7.5 demonstrates the alignment of student behaviours with teacher interactions to benefit the continued learning of the classroom.

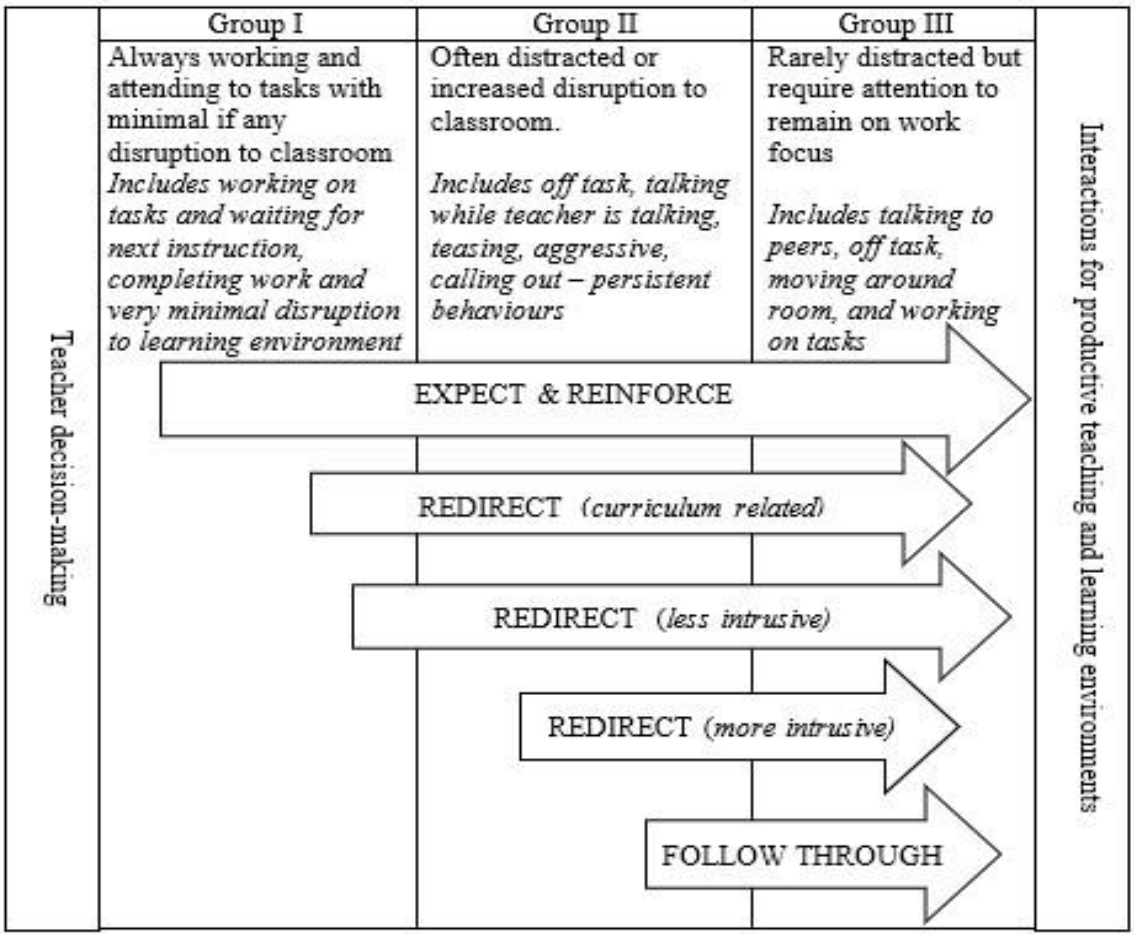


Figure 7. 5 Alignment of Four Dimensions and student groups

To manage classroom behaviours, the Four Dimensions framework provides a clear and distinct order for teacher-student interactions to optimise the likelihood of creating productive teaching and learning environments. When we divide the students in our classroom into three groups, the teacher-student interactions can be guided through the Four Dimensions framework to support productive learning environments.

This concept of using increased proactive actions through Dimensions One and Two, or through a *Green action,* can be further represented through the graphic in Figure 7.6, referred to as *'Mob buy-in*". Mob buy-in is about recognising that in every classroom setting there are three distinct groups of students. There is one group ready to learn, another group who are not prepared to learn and will initiate much of the disruption, these two groups are represented in the inner and outer extremes of the graph. The middle group are those who without early interactions will be likely to add to the disruptive actions in the classroom.

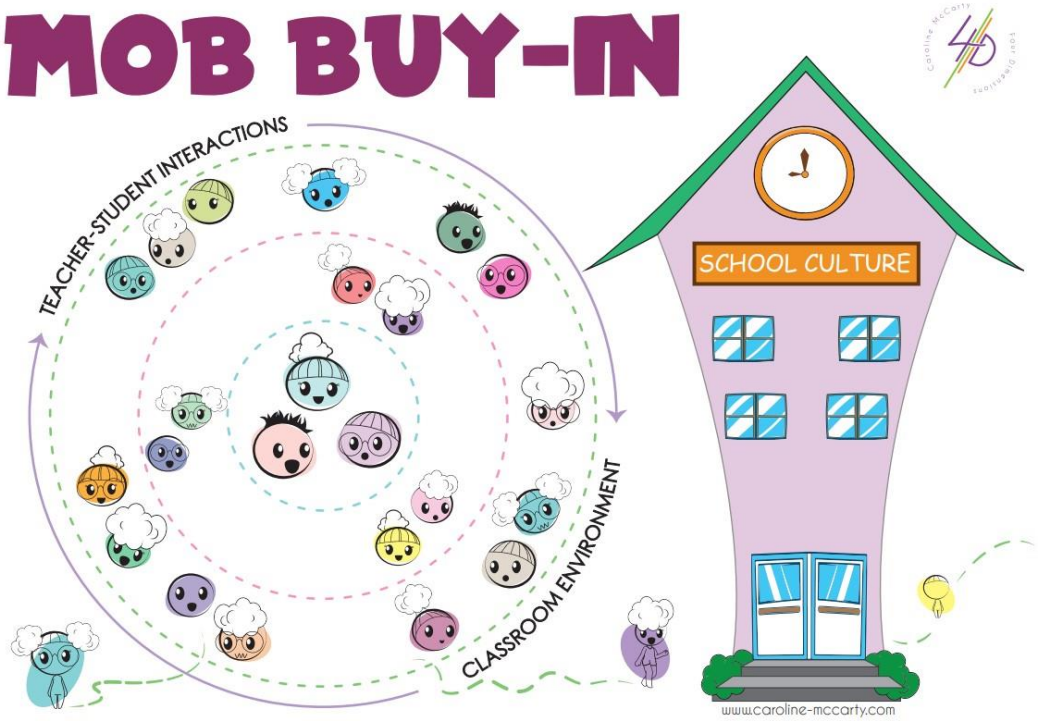


Figure 7.6 Mob buy in

Mob buy-in is the expectation that teachers know their students, that differentiation in management of classroom behaviour will increase the teaching and learning time and that all teachers' actions are mindful and chosen to reduce the public nature of behaviour management conversations. In teaching practices, the teachers' job is to ensure all students are able to access the curriculum and have a sense of belonging in that classroom. This is the essence and concept of Mob buy-in, every teacher action is deliberate to get the class, or the mob, to buy in to the teaching and learning experiences through opportunities provided by teacher.

7.3.3 Teacher knowledge: Transference of skills to practice

In the concluding stages of designing the professional learning program it was essential to consider that the literature demonstrated the greatest concern with professional learning programs is their ability to transfer new knowledge back to the place it is actioned (Brion, 2020). Phase I of this study reflected this with participants showing limited understanding that their practice is different from their observable practices after the Classroom Profile program. The Four Dimensions framework design was influenced by the process of continuous improvement, both in the professional learning program and in the teaching practices themselves.

The program's design was intentional in ensuring that teachers could refer to a simplified model to assess and reflect on their teaching practices while teaching. Therefore, the early phases of the Four Dimensions professional learning program and its design were based on the new knowledge and skills of the Four Dimensions framework, with a workshop-based in each of the dimensions of: *Expect*, *Reinforce*, *Redirect* and *Follow through*. Over a series of workshops, the feedback from participants and the researcher's reflection led to the conclusion that the program, like the Classroom Profile program, was influential in teaching new skills. Still, the feedback identified the gap in previous training programs.

The importance of *how* teachers made decisions in teaching practices was pivotal in the transference of these skills from the professional learning program to the classroom. The program required a significant proportion of time allocated to developing teacher knowledge and skills for making decisions, with the skills easily identified once the process of decision-making was established.

Deciding which of the knowledge and skills should be included under each Dimension was guided by the data from interviews and observations, with a connection to positive affect and the patterns found in teaching practices that increased opportunities for positive teacher-student interactions and reduced escalating students' disruption. The Four Dimensions framework was created from these teaching practices that reflected the decisions made by teachers that resulted in teaching skills that intruded less on the learning environment and were based on positive teacher-student interactions. From the participants' feedback at these initial training days and the researcher's reflection, the focus moved even further towards the need to provide professional learning on the decision-making process over the need for the skills alone.

The knowledge and skills defined in the Four Dimensions Framework, described teachers' physical actions in response to student behaviour. The Four Dimensions framework provided a simplified, yet not simple, approach to classroom decision-making. The Four Dimensions framework is about building connections through positive interactions, and this needs to be taught as a constant interaction during teaching practices. The focus in teacher interactions with students shifted from managing student's disruption to reducing disruption in the first instance. Therefore, the Four Dimensions professional learning program has the potential to provide teachers with a clear balance of choices to support decision-making to increase positive affect in teacher-student interactions.

7.4 Chapter summary

The design was completed for the Four Dimensions professional learning program using the Four Dimensions framework as the foundation for the content to develop teacher knowledge and skills that enable them to create positive teacher-student interactions. The design of this professional learning program would benefit teachers through guiding teacher decision-making processes in choice selection to create and maintain productive teaching and learning environments. Such environments require teachers who have knowledge and skills in changing student behaviours in classroom behaviour management practices, not just the ability to stop the immediate behaviour.

When the knowledge and skills of a teacher do not match the current classroom climate, nor reflect the changes in society that impact educational systems, teachers continue to practice what they know, and this may include teacher skills that are no longer effective or incapable of meeting the needs of current classroom demands. Professional learning programs are essential in a teacher's career for both initial knowledge and skills to do the work of teaching and the need for ongoing professional development to align changes in educational reform with classroom practice.

With the successful development of the Four Dimensions framework based on empirical evidence from findings in Phase I of this study, Phase II provided an opportunity to test the impact this new professional learning program claimed it would have on teaching practices. The study's ethics application was submitted to include data and evidence-based on the initial training of a much larger, a new group of teaching participants who had undergone training in the Four Dimensions professional learning program. This one-day training program was offered to teachers across Queensland and the Northern Territory in both Government and Non-Government schools.

The next chapter will present the results of survey data that reflected on survey questions used in the review of the Classroom Profile program. The aim of the next chapter was to better understand the Four Dimensions professional learning program and how this framework impacts on teacher decision-making in classroom practices. These findings are presented in the format of a journal article.

CHAPTER 8 FINDINGS AND DISCUSSION PART D

It's no use going back to yesterday, because I was a different person then. (Alice in Wonderland)

Journal article III: Australian Journal of Teacher Education

Blackley, C. (under peer review 2021). The influence of a professional learning program: Changing classroom management practices. *Australian Journal of Teacher Education*.

Four Dimensions: Creating supportive classroom environments through positive teacher-student interactions

Abstract

This study evaluates the effects of a Professional learning program, *Four Dimensions*, on teachers' classroom behaviour management practices. The knowledge and skills for classroom behaviour management are developed in many ways, and are aligned to student achievement, and therefore essential for effective teaching. For this study, 201 primary and secondary teachers from Australian government and independent schools volunteered to complete an online survey, from which participants reported an increased use of proactive teaching methods once they had attended the *Four Dimensions* program. As a result of attendance at the program, teachers reported increased awareness on the impact their own behaviour had on the flow of curriculum delivery and student behaviours. The teachers' expressed confidence in the ease of recall in the skills taught through the Four Dimensions program, which led to superior speed in decision-making and improved application of proactive teaching practices when interacting with students. Findings from this study included evidence to support that the Four Dimensions framework and professional learning program changed teachers' classroom practices in favour of proactive teaching skills. When using the Four Dimensions framework to inform decision-making, teachers reported a sense of accomplishment and success in reducing interruptions to the flow of learning based on how they interacted with students. Furthermore, the participants' narratives changed, using language that described a classroom culture associated with supportive classroom environments. Implications from this study provide future areas of research around the *Four Dimensions* program including longitudinal impact on teacher knowledge and skills, wellbeing, and student achievement.

Keywords: Classroom behaviour management, decision-making, Four Dimensions, intrusion to learning, proactive

Introduction

Classroom management is defined by Blatchford and Russell (2019) as the decisions that teachers make about how to manage groups for learning. Most teachers view classroom management strategies as tools to control student behaviour (Eisenman, Edwards, & Cushman, 2015) in which reactive and restrictive methods of discipline are often relied upon for periods of disruption (Lewis, Romi, Qui, & Katz, 2005). This paper asserts that the teaching profession needs to look to classroom management as a resource to improve student learning instead of management that is aimed at controlling their behaviour. Such a shift in thinking challenges the current systems within schools that continue to apply restrictive and punitive consequence-based processes (Stango, 2017).

The idea that teachers' actions influence classroom environments is presented in the work of John Hattie (2009), who proposed that "teachers are the most significant source of variance to student learning" (p. 2), with teachers accounting for approximately 30% of the variation to student achievement. Through his meta-analysis, Hattie found that it is what teachers know, do, and care about that is so powerful in this learning equation. Marzano and Marzano (2003) also maintain the importance of the teacher's role in the classroom, stating that students "cannot learn in a chaotic, poorly managed classroom" (p. 6). This highlights the importance of understanding the knowledge and skills teachers require to do the work of teaching. Furthermore, teachers' choices when making day-to-day classroom decisions to manage student behaviour can change the classroom environment.

Additionally, the interactions between teachers and students have been shown to directly impact the classroom environment and the outcomes of students. Teachers' development of knowledge and skills that promote appropriate behaviours affects the quality of student learning and prioritises teacher and student well-being which is essential for maintaining positive and caring relationships between staff, students, and parents (Peel, 2019). It follows then that a classroom environment is influenced by and through the multitude of decisions a teacher makes through everyday classroom interactions.

Of the skills essential to a teacher, classroom management skills are seen to be integral to effective teaching (Blatchford & Russell, 2019) and the development of supportive classroom environments (Burden, 2020). This research aimed to redirect classroom management discourse in Queensland state schools, by evaluating the strengths in proactive classroom management techniques over reactive practices. In responding to the research question on how did the Four Dimensions professional learning program change teaching

practice? Current research in Queensland has shown that six of the ten skills taught to teachers for classroom behaviour management from the Essential Skills of Classroom Management (ESCM) are reactive in nature (Hepburn et al., 2020). The ESCM continue to be used in schools to support procedures around classroom behaviour management practices and therefore teaching practices. Changes in historically placed conversations occur when new knowledge and skills provide the foundation for growth and development away from prior ways of working (Seiz, Voss, & Kunter, 2015). The strategies presented at a Four Dimensions professional learning program shift past discourse around punitive classroom management methods to more proactive ways of working and interacting with all students. This study investigated the newly designed Four Dimensions framework (McCarty, 2019) as a professional learning program and its' influence on teachers' decision-making in teaching practices.

The Four Dimensions framework provides the foundation for the Four Dimensions professional learning program. The result of earlier research found that every teacher decision made in classroom behaviour management will be attached to one of Four Dimensions: expect, reinforce, redirect, and follow-through. The difference between teachers who reported success in classroom management and those who did not was found in the balance between the use of skills drawn from these four dimensions. The Four Dimensions professional learning program developed the knowledge and the skills on what to consider and how often different skill use would influence the classroom environment. A ratio in how often teachers used each of the Four Dimensions informed choices of skills when deciding how to respond to others' behaviour, increasing positive teacher-student interactions. The research answered the question: How did the Four Dimensions professional learning program impact teachers' decision-making and their teaching practices in the classroom? The first section of this paper reviews the literature that provided the background into the impact teachers have on learning environments. This is followed by representing the conceptual framework that informed the data collection and analysis and guided the findings to address the research question. Finally, the implications of the study will be discussed.

Background

Jacob Kounin's (1970) demonstrated how one student's behaviour can influence the behaviour of other students in the classroom through his concept of the Ripple Effect (p. 158). This study considered how the concept of the ripple effect can be applied to better

understand the impact of classroom decisions on classroom changes to student behaviours. The ripple effect provides evidence that a teacher's behaviour would potentially influence the classroom environment. The decisions made by a teacher are informed through their prior experiences and consideration of alternative choices at the time of the decision. When a teacher stops the learning of all students to manage the behaviour of a few, this creates a negative ripple effect on learning. Such interruptions to the flow of curriculum delivery have far-reaching impacts on teaching (Rumschlag, 2017), student achievement (Beuchert, Humlum, Nielsen, & Smith, 2018), teacher well-being (Wang, Degol, Amemiya, Parr, & Guo, 2020) and the culture of the classroom environment (Abd Elhay & Hershkovitz, 2019). Teachers aim to create supportive teaching and learning environments that will optimise student achievement.

Supportive classroom environments are defined throughout the literature as environments in which effective learning can occur across different cultural norms (Amit, 2013; Coker, Kiefer, & Robinson, 2019). Implementing successful classroom management is vital for teachers to maintain supportive teaching and learning environments (Burden, 2020). Supportive learning environments are more likely to have evidence of proactive teaching practices and a reduction in reactive teaching practices (Hepburn & Beamish, 2019). Proactive approaches include teacher responses to student behaviours that prevent unproductive behaviours before a behaviour occurs (Aydin & Karabay, 2020). Proactive classroom management is about classroom organisation and teacher behaviours that are likely to prevent disruptive student behaviours (Paramita, Anderson, & Sharma, 2020). Examples of such teacher skills include setting up clear expectations for behaviour and curriculum, cueing the behaviour desired and interacting with students who meet classroom expectations.

Effective classroom management is the cornerstone to successful teaching and, as such, is to be included in all teacher development programs (Rogers, 2015). Teacher professional learning should not be a series of isolated events but rather as an ongoing process (Warren, 2018). A survey conducted by Baker (2005) found that teachers perceived ability for classroom management influenced their preparedness for "handling difficult students" (p. 58). Therefore, it is acknowledged that the teachers who have developed the knowledge and skills, increased their confidence in classroom behaviour management, and were more likely to create supportive learning environments for students.

Reactive teaching practices are the dichotomy to proactive practices, in that teachers respond to unproductive behaviours by students once they are occurring. Reinke, Herman, and Newcomer (2016) found that while negative attention, such as reprimands like 'stop

talking' – will temporarily stop such student behaviour, students will return to the same behaviours within a short period of time. Such reactive teaching practices result in teachers having to increase interactions with that student, thus reducing time to do the work of teaching all students without interruption, increasing frustration, and reducing positive interactions with students or focus on curriculum. Over the last two decades, schools have seen a significant change in the methods used to manage classroom behaviours (Blatchford & Russell, 2019; Doyle, 1989).

Conceptual framework

In Queensland, Australia, educational leaders in government schooling have encouraged schools to adopt positive learning frameworks to inform school policy and procedures (Banks, 2014). An example is evidenced in schools using the Positive Behaviour Schools (PBS) approach to classroom and classroom behaviour management using a three-tiered approach (Appendix A). First developed in the United States of America (Sugai & Horner, 2002), and modified for the Australian context and renamed Positive Behaviour for Learning (PBL) (Mooney et al., 2008), PBL provides school-wide systems through a focus on proactive management practices used by teachers in classroom management (Reddy, Baghaei, Vermeulen, Hilton, & Steinhorn, 2017). The behaviour expected of students in different school settings is reflected in the school-wide matrix. A school-wide matrix provides clear definitions and expected behaviours for students across a variety of school and non-school based settings (Rose, 2017), for example 'We walk safely around school grounds. While PBL provides expected student behaviours, it does not provide the specific skills or knowledge on how to change a teachers' influence of prior teaching experience on the matrices' expectations for classroom practice. As such, teacher skills required to succeed in gaining the appropriate student behaviours outlined in a schools PBL matrix are vague.

Another example in Australia, in Queensland schools, is the use of the Essential Skills of Classroom Management (Department of Education and the Arts, 2006), referred to as the ESCM, to provide teachers with ten skills based on the three concepts of acknowledgment, correction, and expectations to manage classroom behaviours. The ten skills include: Establishing expectations; Giving instructions; Wait and scan; Cueing with parallel acknowledgement; Body language encouraging; Descriptive encouragers; Selective attending; Redirecting to the learning; Giving a choice and Follow Through. Hepburn, Beamish, and Alston-Knox (2020) qualified that while the strategies contained within the

ESCM have some empirical support, six of the ten practices are reactive in nature. Therefore, resulting in the training of teachers to use reactive skills in teacher decision-making for classroom management.

Development of the Four Dimensions Professional Learning Program.

The Four Dimensions professional learning program is a framework designed to guide teachers in their choices in the decision-making process for interactions with students. Positive teacher-student interactions will best position a teacher to create and sustain supportive classroom environments (Addimando, 2019). The knowledge and skills used in the management of classroom behaviours, to achieve supportive classrooms, can be aligned with one or more of Four Dimensions: Expect, Reinforce, Redirect, and Follow Through. These Four Dimensions are further reduced into two groups to create a short recall pathway for teacher choices: Green Zone and the Amber Zone. Green Zone teacher actions draw attention to curriculum and appropriate behaviour conversations with students. In comparison, Amber Zone teacher behaviours draw attention to behaviour conversations with students not meeting classroom expectations, through teacher language and actions that redirect students engaged in unproductive or disruptive learning behaviours. The interaction between a teacher and student is referred to as the *footprint* a teacher creates when initiating an interaction with a student. These Dimensions, the related teacher skills and their interaction or *footprint* can be seen in Table 8.1.

Table 8.1. Four Dimensions skills, knowledge, and decision-making

Dimension	**Four Dimensions Skills**	**Four Dimensions Knowledge**	**Four Dimensions Decision**
Dimension One	Expectations Cue expectations Peripheral vision	80%	Green footprint
Dimension Two	Reinforce expectations Instruction encouragers Describe positive reality		
Dimension Three	Redirect behaviour through non-public means Redirect behaviour (publicly)	20%	Amber footprint
Dimension Four	Follow Through with a consequence		

The Green and Amber Zones make available a simplified process to expediate recall when a teacher deliberates on how to best respond to students who are being disruptive. Through this professional learning program, the Four Dimensions framework provides knowledge and skills that focus on influencing teacher choices in decision-making.

Design considered increased recall speed

To increase recall in decision-making and memory, a process of chunking and chaining is beneficial (Bera, Shukla, & Bapi, 2021). This process reduces key concepts into significant chunks that lead into branches or chains, which house the larger pieces of information. In quick recall, the brain accesses the chunks of information in the first instance, increasing the speed of recall that leads to access to larger bodies of information (Preciado, Jalalian-Chursky, Norton, Rasikawati, & Eigenbrood, 2021). Using these principles of chunking and chaining (Balleine, 2019), the Four Dimensions program is intended to reduce the Four Dimensions to Two Zones to create a path for increased recall for a vast array of teachers' skills that can be used in responding to student disruptions.

While the literature around professional learning programs alluded to the need for programs that provide support to teachers in targeted areas, there was limited evidence on how a teacher should change their classroom management practices having success in changes to student behaviour and influence supportive classroom environments. A gap was identified in the literature between what was known to be needed by teachers for classroom management practices and the evidence on what was offered in current professional learning programs. This study on the training in the Four Dimensions professional learning program provided answers to the gap found in the literature reviewed. The research into the area of a person's recall in everyday decision-making showed that there is a ceiling factor in the number of items readily available before having an impact on working memory (Yang, Jia, Zheng, Allen, & Ye, 2019), implying that the teaching of a set of skills in isolation will not provide the increased ability for teachers to apply the skills to their classroom practices. The research on decision-making provided the link required to support an alternate approach to professional learning in learning the new skills themselves.

Method

This qualitative study investigated the changes to teachers' teaching practices and decision-making after the Professional Learning Program of Four Dimensions. Using

convenience sampling (Etikan, Musa, & Alkassim, 2016), an online survey of twenty questions was employed through email across both government and independent education sectors, with teachers from primary and secondary schools. The questions required participants to provide responses describing aspects of their teaching practices after attendance at the Four Dimensions program.

This type of survey was used to establish meaningful variation (relevant dimensions and values) within that sample population (Hennink, Hutter, & Bailey, 2020). This study's qualitative survey provided evidence of the diversity of the teaching population who completed the Four Dimensions professional learning program. This method of inquiry was most suited for addressing the research aims of this proposal due to the limited evidence of empirical data in Four Dimensions before this study (Hennink et al., 2020). This form of inquiry supported the need for explorative work aimed at describing the unknown or inarticulate phenomenon (Kozleski, 2017) of the unique perceptions of each teacher's classroom experience of Four Dimensions. Anecdotal evidence from participants and the researcher supported the development of the Four Dimensions framework and provided the foundation for this study to investigate further the potential of Four Dimensions to influence teacher decision-making. This data were in the form of the researchers' journal and incidental conversations with teachers from the schools where training had been conducted.

Participants

Participants were sourced from a convenience sample of teachers who completed the Four Dimensions, one-day professional learning course between January 2019 and March 2020. Demographic questions of participants' school, experience, gender, or age were not sought. It was not intended to provide insights about the influence of these concepts on the participants' beliefs, knowledge, perceived skills, and confidence in classroom practices' decision-making processes. The focus was on the trends across all respondents concerning the research question. The sample size included teachers from both primary and secondary settings across Australia's remote areas to large city schools. Participants' only known information was their attendance at a Four Dimensions one-day training program within the last 12-month period. Participants volunteered through the link provided for the online survey int eh original email from the researcher. The research was conducted through two phases: (1) Four Dimensions professional learning program intervention; and (2) follow-up survey.

Phase I: Four Dimensions professional learning program

The Four Dimensions professional learning program is delivered through approximately six hours of professional learning. It is separated into three specific parts: the process of decision-making and its impact on teaching practices; changes to society and the inclusion of positive psychology in educational practice, and finally; the skills of Four Dimensions. The Four Dimensions program aligns historical teaching practices with lens for effective classroom interactions that benefit classroom behaviour management. The program is focussed on aligning current practice with small shifts in how they use these skills to increase supportive classroom environments. This is achieved through interacting with students using proactive management skills. This new way of thinking, when applied to current practice, reduces teacher cognitive load and related fatigue in classroom decision-making (Martin, 2014). To establish the impact of the Four Dimensions program on teachers, a survey was utilised.

Phase II: Survey

To measure the impact of the Four Dimensions professional learning program, and professional learning program's effect on teaching, participants were invited to respond to a 20-question survey (Appendix B). The survey was not a part of the training and was offered a month after training was completed. There were no incentives to complete the survey, and to encourage open responses, all details of participants remained anonymous. Of the surveys collected, incomplete surveys and data cleaning was applied, with a total of 123 survey responses remained for inclusion in the data analysis. The statistical department at the University of Southern Queensland as instrumental in supporting the final released survey by guiding to order of questions and questions to reduce bias in answers from participants.

Data analysis

The survey provided valuable data through both the numerical and written responses collected. The data were analysed using inductive reasoning from the participant responses to recognise themes within the data set. Initially these themes were established through the identification of Key Words in Context (KWIC) and repetition of language, providing evidence through participants self-reported thoughts related to the survey question. The participants' responses were coded using nodes to find keywords in context (KWIC)

reflecting similar or different views on the survey questions (Luhn, 1960). NVivo was used to group and collate similarities and highlight differences, and themes and patterns of language use were constructed inductively from data to understand the teacher decision-making process. This research design allowed for the rich conceptualisation of teacher decision-making and the variations in teacher decision-making in classroom practices after the Four Dimensions professional learning program.

The variation between certain survey questions offered evidence on the variation between what a teacher thought they did in the classroom and their actual practice. Quantitative analysis was incorporated into data analysis to look at the relationships and provide a new lens to the qualitative data collected. Using numerical coding and quantifiable responses coded with a one for yes and a zero for no, the data showed that what a teacher thought they knew was not always demonstrated when asked to recall in practice. The following section will provide the data and insights gained from the study's two phases and provide discussion and interpretation around these results.

Results and discussion

After gathering the survey responses, the researcher generated broad inferences regarding the participants' satisfaction with their classroom management training prior to the Four Dimensions program, their reported levels of satisfaction with the Four Dimensions professional learning program and its influence this program had on their classroom practices. Each subsection below presents the findings from the survey data.

Comparison of ESCM and Four Dimensions recall

To establish the ease of recall in the professional learning program of Four Dimensions, the study investigated teacher knowledge in the ESCM as a comparison tool. Increased recall provides reduced cognitive load (Torta et al., 2019) and therefore positions a teacher with increased working memory in relation to the decision-making process. Reduced cognitive load aids in supporting teachers to make better choices due to reduce negative affect associated with stress and frustration that can be found with high cognitive load (Boekaerts, 2017). Survey question two and four demonstrated the difference with which teachers had confidence in knowledge of the two programs, the ESCM and Four Dimensions as represented in Figure 8.1.

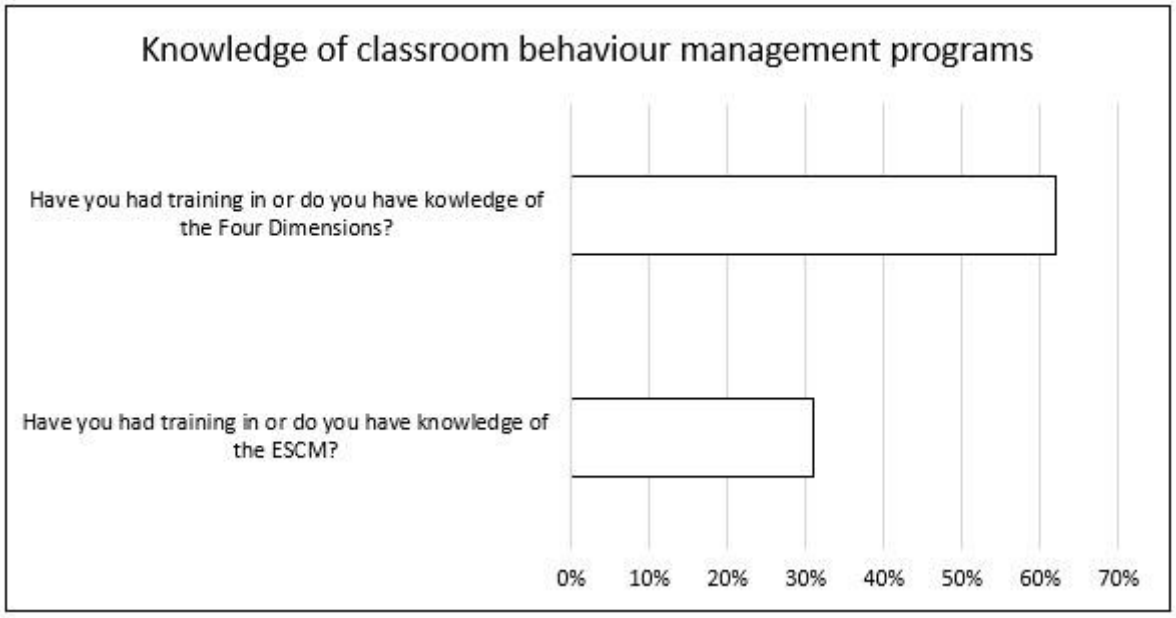


Figure 8.1 Knowledge of the ESCM and Four Dimensions.

To further investigate the validity of these responses, Survey questions 19 and 20 asked participants to select skills from each of the two programs jumbled amongst a grouping of ten other skills, chosen for their historical use in classroom behaviour management and supportive classroom environments, with no relevance or connection to the ESCM or Four Dimensions program. Within this data set, participants' recall of the Four Dimensions concepts was 75% with 100% confidence. In comparison, less than one percent of participants correctly identified with 100% confidence the items from the ESCM. To be counted in the data reflecting 100% confidence, participants selected only the items directly associated with the program and listed no incorrect options. When the confidence level was reduced to 75% correct, in choosing the concepts that aligned with each program, participants selection of Four Dimensions was 91.9%. The correct selection of ESCM teacher skills was significantly lower, with four percent of participants able to correctly identify the ESCM skills, as can be seen in Figure 8.2.

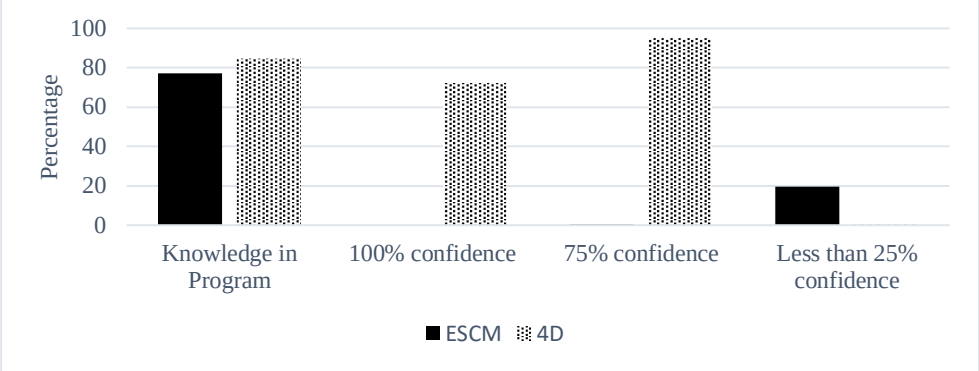


Figure 8.2. 100% confidence to recall items of Four Dimensions and ESCM

These findings demonstrated high confidence in recalling the term ESCM, used as a familiar way of responding (Hepburn, Beamish, & Alston-Knox, 2020), when asked how they managed classroom behaviours. Responses to survey questions, when compared demonstrated that participants had limited knowledge about the specific skills that make up the ESCM. The combined data evidenced both recall and identification of the Four Dimensions skills displayed familiarity with the Four Dimensions framework as well as knowledge of specific skills for transference to teaching practice. This finding provided an initial response to the research question, showing that the Four Dimensions framework positively added to a teacher's recall of proactive choices in the decision-making process. One participant stated that they 'use the ESCMs, but the Four Dimensions is much easier to work'.

The literature reflected the benefits of ongoing professional learning for teachers (Brown & Militello, 2016) while also acknowledging that not all professional learning was seen to impact classroom practices the same (Cordingley et al., 2015). The design of the Four Dimensions framework and the professional learning program aimed to provide the knowledge and skills for teacher interactions with students and the knowledge and skills on how they made the decisions regarding those interactions.

The Four Dimensions key messages

One way to demonstrate a better understanding of new skills acquired is to restate the objectives or concepts using your own words (Kang & Kim, 2019). Examples of teachers' development to restate the objectives of the Four Dimensions framework were evident across responses from the survey. One concept of Four Dimensions is *Soft Summer Rain* (McCarty, 2019). Soft Summer Rain refers to teachers using cues to remind students of what is

expected and recognising those meeting expectations. Participants restated this concept in personal ways, with one sharing that "it is about creating a supportive classroom climate by noticing, using, and responding to the positive behaviours".

The research referred to the recall of concepts delivered verbatim as inferring a lack of understanding and limited cognitive processing of the ideas under discovery (Hertel et al., 2019). In describing Four Dimensions concepts, the data showed that participants used their own original words that varied from the professional learning program but with the same intent and meaning behind these descriptions. When more in-depth understanding is achieved, decision-making is undertaken with confidence and increased consideration of options rather than reactive choices based on prior experiences (Coba, Zanker, Rook, & Symeonidis, 2018).

Dimensions and Zones of Four Dimensions

With the evidence found on the benefits of simplified chunks of information for increased recall, the Four Dimensions were able to be further reduced to two groups to reflect interactions that were based in a proactive nature or a reactive nature. Recall benefits from small chunks of initial knowledge that lead to the chaining of concepts (Tanida, Nakayama, & Saito, 2019). These two groups become the Zones of Response: Green Zone reflecting proactive teaching interactions and Amber Zone reflecting reactive teacher interactions. The Green represented a process of 'go', while the colour Amber reflected a 'thinking' process before acting. With this reported ease of recall of Zones that led to clearly defined proactive or reactive teacher choices in classroom behaviour management, teachers who had little disruption after the Four Dimensions program were found to use Green Zone skills around 80% of the time. This was of interest to the researcher and in reflecting on previous data it was found that teachers who reported supportive classroom also had an 80% Green zone in classroom interactions. These percentages were based on the teaching skills sued when interacting with students. The benefits of chunking the Four Dimensions into two *Zones* were evident across the participants' responses, as represented in Table 8.2.

Table 8.2. Green and Amber footprint

Zones	**Frequency**	**Percent**	**Cumulative Percent**
Green footprint	104	84.6	84.6
Amber footprint	19	15.4	100
Total	123	100	

One participant called it the ‘big Green-footprint’ while another teacher said that they are ‘happier teaching when they spend more time in the Green’. Green footprint represents the teacher's language and their choice in the first interaction with a student regarding classroom management using Green language. A green footprint refers to teachers choosing to use language that refers to their expectations or to use a teacher action to reinforce appropriate student behaviours before responding to unproductive student disruptions. An Amber footprint is the use of redirections that intrude on others' learning to varying degrees and can result in follow-through as reactions to disruptive student behaviours. Table 2 reflects the language percentages used by participants to describe their teaching practices, who also reported a sense of success in classroom management practices.

It was found that after the professional learning program, teachers who reported success in classroom management practices also predominantly used Dimensions One and Two when interacting with students around classroom management conversations. Teachers in positive states of affect used Dimensions One and Two, approximately 80% of the time and therefore only needed to redirect unproductive behaviours 20% of the time. The concept of balancing a 'teacher's Green footprint and Amber footprint is founded in the literature that acknowledges that supportive classroom environments are influenced by the interactions within the classroom itself (Claessens et al., 2016). It expands on other models that purport the benefits of prevention rather than reactive teacher strategies in the classroom (Hepburn et al., 2020; Sugai & Horner, 2020).

Implications, limitations, and future directions

The findings from this study have application for both individual and systemic levels within school policy and procedures around classroom behaviour management. Beyond classroom behaviour management, the Four Dimensions professional learning increased the collegial conversations due to a reduced sense of judgement when discussing classroom issues amongst teachers. These findings provide a place in classrooms for the Four Dimensions framework in promoting a cultural shift reflected in supportive school and classroom environments.

Firstly, it is recommended that for schools and principals alike, the study's implications on creating and maintaining positive school culture will be relevant in designing, implementing, and choosing professional learning programs. The development of positive school culture is linked to the classroom practices of the teachers within them. Supportive

school environments are drivers of quality education systems and creating the culture for them to thrive requires consideration of how a teacher learns the necessary skills.

Secondly, high expectations of teacher skills that focus on improving whole school culture are essential and begin in and through classrooms (Acosta et al., 2019). The Four Dimensions learning ensures all teachers, beginning and experienced, are abreast of current practices that embed supportive classroom values into their daily work. The current findings demonstrated the strength of the Four Dimensions framework as a professional learning program in increasing awareness in all teachers, both beginning and experienced, in the skills required and how to use the skills to improve classroom environments. It is a program that offers benefits to whole school development.

Thirdly, the challenge to many professional programs appears to be alleviated, with changes to habits formed through prior practice. Positive teacher actions increased as teachers found the ease of recall of Four Dimensions to assist in their ability to transfer the knowledge into classroom practices and the speed in which they replaced old habits with new ones. The study on the Four Dimensions professional learning program provided evidence of the benefits to future training programs for both beginning and experienced teachers. Finally, the increase to curriculum time was consistently seen as a benefit with immediate and sustained changes in classroom practice as teachers stepped into an interaction with a student using a Green footprint more often. Teachers reported increased time for curriculum delivery and a supportive classroom environment.

Limitations of the study need to be considered when interpreting the data. The data needs to be interpreted with the knowledge that the author delivered the professional learning program and collected the data, and while reflexivity in research was considered the findings may eb influenced by this fact. The collection of data removed all identifying categories from teachers and future students would benefit from assessing the trends amongst teachers through demographics, experiences, and content areas. Furthermore, the scope of this study is a limitation in terms of confirming the long-term impact the program would have on teacher practice. While it is reassuring to have over 99% of participants recommend and support the ease of application of the skills taught, the justification of these changes would benefit from a longitudinal study of changes to teacher habits to see if these changes did remain with them in their classroom practices. Future research could expand the sample size and investigate the benefits a longitudinal study would bring to the field. Another consideration when applying these findings is that teachers who replied to the survey were

those teachers who actively believed and had engaged in the Four Dimensions professional learning program.

Conclusion

These findings will be of use to the broader educational community, both through policy development and the design of professional learning programs. The study provided evidence that the Four Dimensions professional learning program gave teachers a framework that positively influenced their decision-making using increased proactive skills over-reactive in teacher-student interactions. Participants demonstrated ease of recall of Four Dimensions concepts compared to the familiar alternative of the historically implemented ESCM program in Queensland schools. Additionally, the Four Dimensions concepts were better understood through the chunking and chaining process in the Four Dimensions design. All participants reported increased levels of awareness, or states of conscious competence, providing the basis for identifying areas of strength in teaching practices and those practices that may need revising or changing. Increased awareness developed increased reflective practices in teaching, and as such, the Four Dimensions program developed a reflective practice in classroom interactions. Beginning teachers recognised what good practice looked like while experienced teachers found the language to articulate the practices they did.

The findings support that Four Dimensions provided teachers with the knowledge beyond just a set of skills or familiar reference point to justify classroom practices. The simplified Zones using chunking of recall skills into Green, and Amber supported more proactive teacher responses and replaced prior habits of practice. As a professional learning program for teachers, Four Dimensions provided the framework required for the program that influenced teachers to change their skills in classroom behaviour management and the way they made decisions when responding to those disruptions.

References

Abd Elhay, A., & Hershkovitz, A. (2019). Teachers' perceptions of out-of-class communication, teacher-student relationship, and classroom environment. *Education and Information Technologies, 24*(1), 385-406. doi:10.1007/s10639-018-9782-7

Acosta, J., Chinman, M., Ebener, P., Malone, P. S., Phillips, A., & Wilks, A. (2019). Evaluation of a whole-school change intervention: Findings from a two-year cluster-randomised trial of the restorative practices intervention. *Journal of Youth and Adolescence, 48*(5), 876-890. doi:10.1007/s10964-019-01013-2

Addimando, L. (2019). The effect of positive working conditions on work engagement and teaching classroom practices: A large cross-sectional study in Switzerland. *Frontiers in Psychology, 10*, 1-12. doi:10.3389/fpsyg.2019.02129

Alter, P. J., Borgmeier, C., Rosenberg, M., & Scott, T. M. (2010). Decision-making in secondary and tertiary interventions of school-wide systems of positive behavior support. *Education & Treatment of Children, 33*(4), 513 -546. doi:10.1353/etc.2010.0003

Amit, K. (2013). A study of teacher effectiveness inrelation to attitude towards teaching job satisfaction and organisational climate. (Masters). Dayanand Woman Training College, Kanpur, India.

Australian Institute for Teaching and School Leadership. (2018). *Australian institute for teaching and school leadership*. Melbourne: Education Council Services

Aydin, D. G., & Karabay, Ş. O. (2020). Improvement of classroom management skills of teachers leads to creating positive classroom climate. *International Journal of Educational Research Review, 5*(1), 10-25. doi:10.24331/ijere.646832

Baker, P. H. (2005). Managing student behavior: How ready are teachers to meet the challenge? *American Secondary Education, 33*, 51-64. doi:10.1002/(SICI)1098-237X

Balleine, B. W. (2019). Hierarchical action control: Adaptive collaboration between actions and habits. *Frontiers in Psychology, 10*(3), 1-13. doi:10.3389/fpsyg.2019.02735

Banks, T. (2014). Creating productive learning environments: Antecedent strategies for managing the classroom environment & student behavior. *Creative Education, 5*(7), 519-524. doi:10.4236/ce.2014.57061

Beach, L. R., & Lipshitz, R. (2017). Why classical decision theory is an inappropriate standard for evaluating and aiding most human decision making. *Decision Making in Aviation, 85*, 835-847. doi:10-13T14:06:45.000+0200

Bento, F. (2016). Complexity and change in Waldorf schools: A narrative study into perceptions of decision-making processes. *Research on Steiner Education, 6*(2), 78-94. doi:10.1016/j.jrp.2010.05.009

Bera, K., Shukla, A., & Bapi, R. S. (2021). Motor chunking in internally guided sequencing. *Brain Sciences, 11*(3), 292-302. doi:10.3390/brainsci11030292

Betsch, T. (2014). *The routines of decision making.* Boston, Massachusetts: Psychology Press.

Beuchert, L., Humlum, M. K., Nielsen, H. S., & Smith, N. (2018). The short-term effects of school consolidation on student achievement: Evidence of disruption? *Economics of Education Review, 65*, 31-47. doi:10.2139/ssrn.2626712

Blatchford, P., & Russell, A. (2019). Class size, grouping practices and classroom management. *International Journal of Educational Research, 96*, 154-163. doi:10.1016/j.ijer.2018.09.004

Boekaerts, M. (2017). Cognitive load and self-regulation: Attempts to build a bridge. *Learning and Instruction, 51*, 90-97. doi:10.1016/j.learninstruc.2017.07.001

Brion, C. (2020). Learning transfer: The missing linkage to effective professional development. *Journal of Cases in Educational Leadership,* Advanced online publication. doi:10.3389/feduc.2017.00069

Brown, C., & Militello, M. (2016). Principal's perceptions of effective professional development in schools. *Journal of Educational Administration, 54*(6), 703-726. doi:10.7753/IJSEA0609.1002

Bundy, J. M. (2006). Examination of decision-making factors in student discipline by idaho secondary school principals. (PhD). University of Idaho, Moscow.

Burden, P. (2020). Classroom management: Creating a successful k-12 learning community: John Wiley & Sons: Hoboken, NJ

Ceschi, A., Demerouti, E., Sartori, R., & Weller, J. (2017). Decision-making processes in the workplace: How exhaustion, lack of resources and job demands impair them and affect performance. *Frontiers in Psychology, 8*, 1-14. doi:10.3389/fpsyg.2017.00313

Claessens, L., van Tartwijk, J., Pennings, H., van der Want, A., Verloop, N., den Brok, P., & Wubbels, T. (2016). Beginning and experienced secondary school teachers' self-and student schema in positive and problematic teacher–student relationships. *Teaching and Teacher Education, 55*, 88-99. doi:10.1016/j.tate.2015.12.006

Cloonan, A. (2019). Collaborative teacher research: Integrating professional learning and university study. *The Australian Educational Researcher, 46*(3), 385-403. doi: 10.1007/s13384-018-0290-y

Coba, L., Zanker, M., Rook, L., & Symeonidis, P. (2018). *Decision making of maximisers and satisficers based on collaborative explanations.* Paper presented at the ACM Woodstock conference, New York: NY.

Coker, J., Kiefer, S., & Robinson, R. (2019). Teacher motivation profiles: Implications for teacher beliefs and perceptions of the classroom environment. *Advances in Global Education and Research, 3*, 267-278. doi:10.5038/9781732127548

Cooksey, R. W. (2000). Mapping the texture of managerial decision making: A complex dynamic decision perspective. *Emergence, 2*(2), 102-122. doi:10.1207/S15327000EM0202_06

Cordingley, P., Higgins, S., Greany, T., Buckler, N., Coles-Jordan, D., Crisp, B., . . . Coe, R. (2015). *Developing great teaching: Lessons from the international reviews into effective professional development*. London, United Kingdom: Teacher Development Trust.

Department of Education and the Arts. (2006). *The essential skills core learning component*. Brisbane, Australia: Department of Education and the Arts Queensland

Doyle, W. (1989). Classroom management techniques. *Strategies to reduce student misbehavior*, 12 (2), 11-31. doi:10.2304/eerj.2013.12.3.389

Easthope, C., & Easthope, G. (2000). Intensification, extension and complexity of teachers' workload. *British Journal of Sociology of Education, 21*(1), 43-58. doi:10.1080/01425690095153

Eisenman, G., Edwards, S., & Cushman, C. A. (2015). Bringing reality to classroom management in teacher education. *Professional Educator, 39*(1), 1-12. doi:10.1002/pits.21819

Ell, F., Simpson, A., Mayer, D., Davies, L. M., Clinton, J., & Dawson, G. (2019). Conceptualising the impact of initial teacher education. *The Australian Educational Researcher, 46*(1), 177-200. doi:10.1007/s13384-018-0294-7

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics, 5*(1), 1-4. doi:10.6224/JN.61.3.105.

Freiberg, H. J., & Lamb, S. M. (2009). Dimensions of person-centered classroom management. *Theory into Practice, 48*(2), 99-105. doi:10.1080/00405840902776228

Fullan, M., Rincón-Gallardo, S., & Hargreaves, A. (2015). Professional capital as accountability. *Education Policy Analysis Archives, 23*(15), 1-22. doi:10.14507/epaa.v23.1998

George, J. M., & Dane, E. (2016). Affect, emotion, and decision making. *Organisational Behavior and Human Decision Processes, 136*, 47-55. doi:10.1146/annurev-psych-010213-115043

Grice, C. (2019). Leading pedagogical reform. *International Journal of Leadership in Education 22*, 354-369. doi:10.1080/13603124.2018.1463462

Hallencreutz, J., & Parmler, J. (2019). Important drivers for customer satisfaction–from product focus to image and service quality. *Total Quality Management & Business Excellence, 10*(1), 1-10. doi:10.1080/14783363.2019.1594756

Hattie, J. (2003). *Teachers make a difference, what is the research evidence?* Paper presented at the Building Teacher Quality: What does the research tell us? ACER Research Conference, Melbourne, Australia.

Hattie, J. (2009). Visible teaching: Visible learning. A synthesis of over 800 meta-analyses relating to achievement. London, UK: Routledge.

Hennink, M., Hutter, I., & Bailey, A. (2020). *Qualitative research methods*. Thousand Oaks, CA: Sage publications.

Hepburn, L., & Beamish, W. (2019). Towards implementation of evidence-based practices for classroom management in Australia: A review of research. *Australian Journal of Teacher Education, 44*(2), 82-98. doi:10.14221/ajte.2018v44n2.6

Hepburn, L., Beamish, W., & Alston-Knox, C. L. (2020). Classroom management practices commonly used by secondary school teachers: Results from a Queensland survey. *The Australian Educational Researcher, 9*(July), 1-21. doi:10.1007/s13384-020-00402-y

Hertel, G., Meeßen, S. M., Riehle, D. M., Thielsch, M. T., Nohe, C., & Becker, J. (2019). Directed forgetting in organizations: The positive effects of decision support systems on mental resources and wellbeing. *Ergonomics, 62*(5), 597-611. doi:10.1080/00140139.2019.1574361

Honig, M. (2006). Complexity and policy implementation. In *New Directions in Education Policy Implementation: Confronting Complexity* (pp. 1-25). Albany: State University of New York Press.

Ingvarson, L., Meiers, M., & Beavis, A. (2005). Factors affecting the impact of professional development programs on teachers' knowledge, practice, student outcomes &

efficacy. *Professional Development for Teachers and School Leaders, 17*(10), 1-24. doi:10.14507/epaa.v13n10.2005

Jhang, F. H. (2020). Teachers' attitudes towards lesson study, perceived competence, and involvement in lesson study: Evidence from junior high school teachers. *Professional Development in Education, 46*(1), 82-96. doi:10.1080/19415257.2019.1585383

Kang, M., & Kim, B. (2019). Understanding different motivational mechanisms for downward, lateral, and upward knowledge transfer. *Social Behavior and Personality: An International Journal, 47*(10), 1-11. doi:10.2224/sbp.8561

Kounin, J. S. (1970). *Discipline and group management in classrooms*. New York, NY: Reinhart & Winston.

Kounin, J. S., & Gump, P. V. (1958). The ripple effect in discipline. *The Elementary School Journal, 59*(3), 158-162. doi:10.1086/459706

Kozleski, E. B. (2017). The uses of qualitative research: Powerful methods to inform evidence-based practice in education. *Research and Practice for Persons with Severe Disabilities, 42*(1), 19-32. doi:10.1177/1540796916683710

Kyriakides, L., Anthimou, M., & Panayiotou, A. (2020). Searching for the impact of teacher behavior on promoting students' cognitive and metacognitive skills. *Studies in Educational Evaluation, 64*, 1-14. doi:10.1016/j.stueduc.2019.100810

Lewis, R., Romi, S., Qui, X., & Katz, Y. J. (2005). Teachers' classroom discipline and student misbehaviour in Australia, China, and Israel. *Teaching and Teacher Education, 21*, 729–741. doi:10.1016/j.tate.2005.05.008

Loprinzi, P. D. (2019). Association between habitual physical activity on episodic memory strategy use and memory controllability. *Health Promotion Perspectives, 9*(1), 65-70. doi:10.15171/hpp.2019.08

Luhn, H. P. (1960). Key word-in-context index for technical literature (KWIC index). *American Documentation, 11*(4), 288-295. doi:10.1002/asi.5090110403.

Martin, S. (2014). Measuring cognitive load and cognition: Metrics for technology-enhanced learning. *Educational Research and Evaluation, 20*(7-8), 592-621. doi:10.1080/13803611.2014.997140

Marzano, R. J., & Marzano, J. S. (2003). The key to classroom management. In (pp. 206-213). Alexandria, VA: The Association for Supervision and Curriculum Development.

McCarty, C. (2019). *Four dimensions*. Morrisville, North Carolina: Lulu publishing.

Mooney, M., Dobia, B., Yeung, A. S., Barker, K. L., Power, A., & Watson, K. (2008). Positive behaviour for learning: Investigating the transfer of a United States system into the New South Wales Department of Education and Training Western Sydney region schools. (1741081645). Sydney, NSW: Department of Education and Training

Murray, J. D., Jaramillo, J., & Wang, X.-J. (2017). Working memory and decision-making in a frontoparietal circuit model. *Journal of Neuroscience, 37*(50), 12167-12186. doi:10.1016/S0079-6123(05)49011-1

Opfer, V. D., & Pedder, D. (2011). Conceptualising teacher professional learning. *Review of Educational Research, 81*(3), 376-407. doi:10.3102/0034654311413609

Paramita, P. P., Anderson, A., & Sharma, U. (2020). Effective teacher professional learning on classroom behaviour management: A review of literature. *Australian Journal of Teacher Education, 45*(1), 5-12. doi:10.14221/ajte.2020v45n1.5

Peel, K. (2019). Behaviour management: Self-regulated learning and well-being. *Australian Council for Educational Research, 25*(1), 15-36. doi:10.18848/2327-7963/CGP/v25i01/15-36

Pérez, A., & de los Salmones, M. d. M. G. (2018). Information and knowledge as antecedents of consumer attitudes and intentions to buy and recommend fair-trade products. *Journal of Nonprofit & Public Sector Marketing, 30*(2), 111-133. doi:10.1080/10495142.2017.1326358

Preciado, J., Jalalian-Chursky, K., Norton, J., Rasikawati, I., & Eigenbrood, R. (2021). Achieving positive classroom experiences for Latino K-5 students. *Journal of Latinos and Education, 9*(4), 1-15. doi:10.1080/15348431.2021.1876696

Reddy, L., Baghaei, N., Vermeulen, G., Hilton, C., & Steinhorn, G. (2017). *Designing mobile applications for positive behaviour for learning (PB4L) pedagogy*. Paper presented at the International Conference on Computers in Education, Christchurch, NZ.

Reinke, W. M., Herman, K. C., & Newcomer, L. (2016). The brief student–teacher classroom interaction observation: Using dynamic indicators of behaviors in the classroom to predict outcomes and inform practice. *Assessment for Effective Intervention, 42*(1), 32-42. doi:0.1177/1534508416641605

Rogers, B. (2015). Classroom behaviour: A practical guide to effective teaching, behaviour management and colleague support. Thousand Oaks, CA: Sage Publications.

Rose, M. F. (2017). Parent involvement and positive behaviour for learning in two Australian schools. (PhD). Western Sydney University, Sydney, Australia.

Rumschlag, K. E. (2017). Teacher burnout: A quantitative analysis of emotional exhaustion, personal accomplishment, and depersonalization. *International Management Review, 13*(1), 22-36. doi:10.1111/bjep.12089

Seiz, J., Voss, T., & Kunter, M. (2015). When knowing is not enough--the relevance of teachers' cognitive and emotional resources for classroom management. *Frontline Learning Research, 3*(1), 55-77. doi:10.14786/flr.v3i1.141

Sellars, M. (2017). *Reflective practice for teachers*. London, UK: Sage Publications.

Stango, C. (2017). The self-reported impact of teacher beliefs about discipline and justice on the implementation of restorative practices. Neumann University, Aston, PA.

Sugai, G., & Horner, R. (2002). The evolution of discipline practices: School-wide positive behavior supports. *Child & Family Behavior Therapy, 24*(1-2), 23-50. doi:10.1300/J019v24n01_03

Sugai, G., & Horner, R. (2020). Sustaining and scaling positive behavioral interventions and supports: Implementation drivers, outcomes, and considerations. *Exceptional Children, 86*(2), 120-136. doi:10.1177/0014402919855331

Tanida, Y., Nakayama, M., & Saito, S. (2019). The interaction between temporal grouping and phonotactic chunking in short-term serial order memory for novel verbal sequences. *Memory, 27*(4), 507-518. doi:10.1080/09658211.2018.1532008

Tiwari, A. (2019). The corporal punishment ban in schools: Teachers' attitudes and classroom practices. *Educational Studies, 45*(3), 271-284. doi:10.1080/03055698.2018.1446330

Torta, D., De Laurentis, M., Eichin, K. N., von Leupoldt, A., van den Broeke, E., & Vlaeyen, J. (2019). High cognitive load may prevent the development of nociceptive hypersensitivity. *Society for the Improvement of Psychological Science,* 35 (1) 102-123. doi:10.31234/osf.io/zq5sx

United States Congress. (2008). *No child left behind act*. United States of America: United States Congress

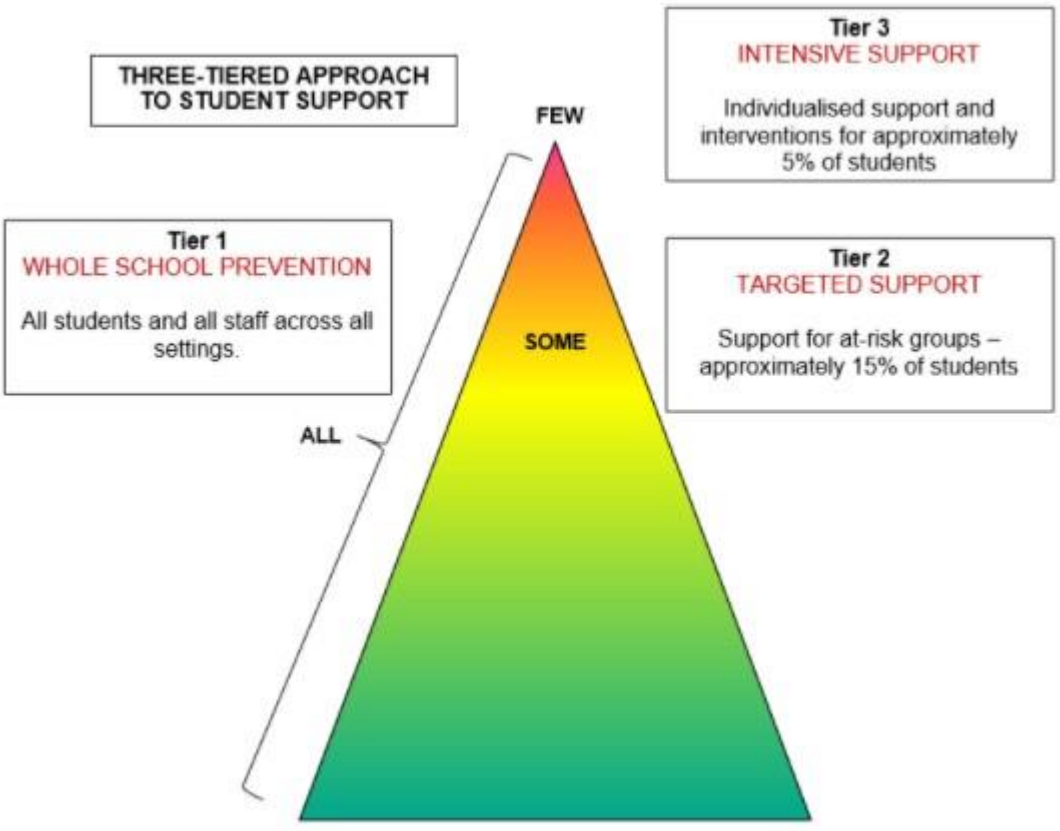
Wang, M. T., Degol, J. L., Amemiya, J., Parr, A., & Guo, J. (2020). Classroom climate and children's academic and psychological wellbeing: A systematic review and meta-analysis. *Developmental Review, 57*, 100-112. doi:10.1016/j.dr.2020.100912

Warren, L. L. (2018). Behaviors of teacher leaders in the classroom. *Psychology and Behavioral Sciences, 7*(6), 104-108. doi:10.11648/j.pbs.20180706.12

Yang, T.-x., Jia, L.-x., Zheng, Q., Allen, R. J., & Ye, Z. (2019). Forward and backward recall of serial actions: Exploring the temporal dynamics of working memory for instruction. *Memory & Cognition, 47*(2), 279-291. doi:10.3758/s13421-018-0865-x

Chapter Appendices

Appendix A. Three-tiered approach to PBL



Appendix B. Survey questions

1. I learned the majority of my skill to manage unproductive or disruptive classroom behaviours at?
2. Have you had training, or do you have knowledge of Four Dimensions?
3. I can recall Four Dimensions with confidence.
4. Have you had training in or knowledge of the Essential Skills of Classroom management (ESCM)?
5. I can recall the Essential Skills of Classroom management (ESCM) with confidence.
6. The concepts underpinning Four Dimensions were easy to understand.
7. Which of the Four Dimensions concepts do you apply in your classroom?
8. Do you engage with the ideas of Four Dimensions in your classroom?
9. How does Four Dimensions compare to other classroom management frameworks you have used?
10. My classroom practice has been positively impacted as a result of Four Dimensions training…
11. My classroom practice has been negatively impacted as a result of Four Dimensions training...
12. Would you recommend Four Dimensions to colleagues? Why? Why not?
13. Implementing the concepts of Four Dimensions into your classroom practice was
14. The key message(s) I got from Four Dimensions workshop was…
15. Do you believe the training in Four Dimensions had a positive influence on your classroom practice?
16. What did that impact look like in your classroom, how has your practice changed?
17. Using a scale of 1 to 5 list in order the reasons you enjoy teaching (Do not assign the same number twice).
18. What influences your level of happiness in your job as a teacher?
19. Of the teacher skills listed which are from the Essential Skills of Classroom management. List no more than 6
20. Of the teacher skills listed which are from the Four Dimensions? List no more than 4.

CHAPTER 9 CONCLUSION

The ear's hearing something is not as good as the eye's seeing it; the eye's seeing it is not as good as the foot's treading upon it; the foot's treading upon it is not as good as the hands differentiating it. (Knoblock, 1990, p. 289)

The study did not seek to critically evaluate teacher effectiveness, nor the quality of the decisions made in teaching practices. The study was a descriptive pursuit to document the elements influencing teacher decision-making and the impact these decisions had on the classroom environment. The teaching practices of participants were examined through interviews and classroom observations in Phase I, with a second ethics application based on a survey designed to specifically examine the implementation of the Four Dimensions framework used in Phase II of this study. The thesis presented the findings and discussions which supported the concept that teaching occurs within an extraordinarily complex environment, recognising the multi-dimensional nature of teaching. When the complexity of the classroom, and the nature of the teaching practices within them are better understood, teachers can be supported to attain the knowledge and skills for effective practice.

9.1 Overview of chapter

In this Chapter, the previous seven chapters are reviewed in Section 9.2. Section 9.3 revisits the biographically situated researcher, leading into the impact the study had on the researcher in Section 9.4. From the overarching research question that underpinned this study, the three guiding research questions are discussed individually in Section 9.5; with a description of the contributions this study has made to practical, theoretical, methodological practices and contributions to future policy development presented in Section 9.6. The limitations and recommendations of the study are reflected upon in Section 9.7 with section 9.8 considering the concepts for future directions related to Four Dimensions, concluding the Chapter and thesis with a summary in Section 9.9.

9.2 Previous chapters reviewed

The aim of this study was to understand what influenced decision-making and how the decision-making process for teachers could be altered during practice through reflection.

Professional learning programs enabled teachers to consider the purpose of reflection and to help them explore their role in fostering environments in which to reflect. Based on a qualitative analysis of teaching practices and responses to interview questions, observations, and surveys, it can be concluded that influences on teacher decision-making are important when considering design and targeted professional learning programs for new and practicing teachers. Chapter one provided the background to the study with a discussion about the shifting nature of classrooms and the influences that societal changes have on the educational community, including the management of disruptive student behaviours. The importance of contributing to an improved understanding of the ongoing development of teaching practices through professional learning programs was explored in the literature review provided in Chapter two, where the impact of cognitive load and affect on the teacher was discussed at length.

The wellbeing of teachers is reflected in their cognitive load and affect and aligns with the likelihood of teachers remaining in their chosen career of teaching. Of significance, it was identified that the attrition rate of teachers is increasing in countries around the world, and the associated social, emotional, and economic cost is high. The literature review posed a need to examine and seek a new conceptualisation of classroom behaviour management to address the issue of student behaviours, cited as a cause of teacher attrition. Through the Chapter two review of the literature, a conceptual framework was formed for the study that included teaching practices, decision-making theories and professional learning programs.

Chapter three described the qualitative research design, methodology, data collection instruments, and thematic data analysis, and provided a clear explanation for adopting a qualitative approach to the study. The research strategy sought to add much needed qualitative depth to the enigma of teacher decision-making, building on the small number of existing studies available to provide a more expansive view of the phenomena. The findings and discussions were then presented in the format of three peer reviewed journal articles in chapters four, five and seven. Chapter seven provided the links and shifts in the research focus between Phases I and II of the study. The concluding chapter presented the contributions the study has made in the fields of decision-making, teaching practices, and professional learning programs.

9.3 The biographically situated researcher revisited

As discussed in chapter one, as a Deputy Principal, I replaced numerous teachers over many years due to: induction programs that fell short in traversing the gap between university and classroom, teachers who could not adapt to societal changes in student behaviours; and a school that reflected the international trend of increasing teacher attrition. Decisions in any professional practice are informed with a heavy bias of knowledge of what we already know, and what we think we already know, and in some cases, this means we should not be able to make decisions at all in certain situations. With the constant shifts in schools to match education policy and societal influences, continual change is needed for teachers to access new and current information, and appropriate new paradigms to assist them in meeting the changing demands of their jobs. Access to new information and professional learning programs in how these skills are transferred to classroom practices are the foundation of positive school culture, and yet are missing from many schools in which I have worked.

Believing we have the knowledge of the subject matter does not equate to having the knowledge required to execute a task competently, nor is it an adequate replacement to ensure teachers are given the opportunity access training to develop skill and knowledge that will serve them well in their work. In relation to this research and the professional preparedness to do the work of teaching, participants consistently reported an overwhelming feeling of unpreparedness in classroom management, which was evident across all levels of experience. If teachers do not feel they have the skills to manage classrooms and are finding the task overwhelming, then what value is placed on the education of our future generations? The level and commitment to skill development through professional learning programs for teacher development within schools and systems must reflect the requirements to do the work of teaching.

In chapter one, I used the analogy of my confidence in flying to illustrate the point that confidence alone does not provide ability to do the work itself. This too applies to teaching practices. Teachers have a vast array of experiences in schools. Many teachers have attended school for at least 12 years, studied and worked within a university or college setting for a further four to six years, attending lectures and tutorials that inform their knowledge and practice in pedagogy, with minimal experience on how to make decisions in relation to establishing classroom environment through effective classroom behaviour management practices. This was evidenced in chapters five across to six, through teacher reports that they do not feel well equipped to do the work in classroom behaviour

management. However, with this known limited capability, I have first-hand seen the impact on teachers who are placed in charge of classrooms and are criticised for their minimal skills in classroom behaviour management. It is from this angle that I was first interested in the development of professional learning programs to support teachers who have the desire, the potential and the impetus but have not been provided with the training to do the work required of them.

As the researcher of this study, it is my belief that if teachers do not feel they have the confidence or the capability based on appropriate knowledge and skills, and are finding the task overwhelming, then teachers will continue to reach high levels of frustration with the system and self and attrition rates will continue to rise. The level and commitment of schools and educational systems, to knowledge and skill development through professional learning programs for teacher development must reflect the urgency it deserves to meet the requirements needed for teachers to do the work of teaching.

9.4 Impact of the study on the researcher

The most challenging aspect of this study was my position in the study. As an educator who was training teachers in a framework that I knew was changing teacher practice, the challenge for me was to recall and return to the starting position before these workshops had begun. The early stages of the research were well documented, and it was from these archives, tree diagrams, word searches and graphical representations, of my early stages of thinking, that I had to regularly return to remember how far this process had driven my thinking. The path to academic integrity brings with it a high degree of questioning, reshaping and evaluation of everything that fashioned the current beliefs. The only way that this study achieved its full potential was through my ability to reflect in, and on, my own practice as an educator and researcher. The reflexivity, of myself as the researcher, in the study was a constant consideration. I had to trust implicitly in the teachers I worked with, and when challenged, ensure I listened intentionally and was prepared to review and establish new lines of inquiry based on the lived stories of the participants I worked with during each Phase.

I found myself in the unlikely position of researcher and educator. As a researcher who was already applying the findings from her study in an action research cycle, I was in a constant cycle of review, rewrite, and review again. This process added value and truth to the final survey and written product of this study. It challenged my resolve at times and

increased my own cognitive load and levels of frustration. My goal was to ensure that I was considerate of the relationships between what was occurring in real life, the classrooms, through the data that evolved from the research, which was then transposed to reflect the teacher's stories, through interviews, on the written page. This section shares the journey that I embarked upon and how it evolved over the six years of application of research to practice.

At the outset of this study, I intended to demonstrate the effective impact Classroom profiling had on classroom practice. Through the initial phase of the study, I quickly became aware of the enormity of the project I was undertaking, and as I sharpened my research questions, my focus shifted from the tool of Classroom profiling, to investigating the differences between teachers in classroom practices. These differences were most obvious when the same student was achieving through one teacher's tutelage and failing with the next. I was intrigued by what differences in teaching led to teachers' feelings of ability or inability, confidence or lack of confidence, the difference between those who stayed and those who were leaving the profession and most importantly, the differences in the impact they had on students in their classrooms. These differences were found to be in the way teachers viewed teacher-student interactions and their decisions around those interactions.

The more I used the Classroom profile training (Department of Education Training and the Arts, 2015b), the more I realised that while the training provide teachers with a sense of increased knowledge and skills, the research reflected a different story. It was exciting to find that other researchers had similar findings, which reinforced the integrity of my research, as this was during a period that I questioned what I found, as it did not agree with my beliefs from the previous years of teaching experience. Herein I refer to the use of the ESCM, and my role in training numerous teachers to use this as their core learning for classroom behaviour management.

Hepburn et al. (2020) found that teachers stated high confidence in recognition of the term ESCM yet showed much lower ability to recall the skills. My research supported the findings in this article. As the Classroom profile is based on the ESCM it can therefore be surmised that it has been found in two separate research studies to be providing teachers with a sense of achievement with limited application to classroom practice. The Classroom profile continues to teach teachers how to sue reactive skills in classroom management which will result in a continued preference for reactive teacher-student interactions in a period where schools are stating a clear objective to move towards proactive and preventative methods of classroom behaviour management. While it is acknowledged that the early work around the ESCM provided a clear triangle model to balance teaching actions in classroom behaviour

management, there is no guidelines as to what that balance looks like to achieve proactive and preventative teacher knowledge and skills in classroom practice.

The Classroom profile training, based on the ESCM, will leave teachers with an initial increase in knowledge of ten skills for classroom behaviour management. Furthermore, it is known from the research article by Hepburn et al. (2020) that teachers had a sense of understanding these ten skills, but my research has demonstrated this stated understanding of the skills is with little direction on what to do in classroom behaviour management to support changes required for positive classroom environments. These key findings left me at a crossroads in my research. I entered this study with an intention to prove the Classroom profiling was the future for classroom behaviour management. As a Level III trainer in Classroom profiling and a confident Classroom profiler, I believed that what I was doing was making a contribution and a difference to the teachers with whom I worked. The themes merging from my own, and the work of others made it clear that what I set out to research needed a clear overhaul before I continued. The focus of my original research was left wanting and further investigation was required.

I was deeply disappointed and for a long time felt a sense of failure, as what I had set out to prove, that Classroom profiling was the best answer to all classroom behaviour management issues, was possibly not the basis for the change needed, this was unsettling. Through the first two years that the data did not produce the answers I had expected, I questioned my worth as a researcher. I had a clear vision in my head and had believed the work I had done for numerous years was successful. The early stages of the research produced themes that demonstrated otherwise. It is confronting when the truth you were looking to prove is dismantled by your own hand.

In response to these doubts, I stepped away from my research for a period of just over 12 months and took time to share my findings on both national and international stages, through educational conferences and symposiums. In this process I sought critical friends in the fields of psychology, education and teaching to critique and assess the work I had done. While feeling a little fragile, with an open approach to listening and hearing the views of others, I soon had it reconfirmed that the point of research is to question what we believe and to trust in the data. When you doubt the data, it is important to look at the problem through another lens, to collect data in multiple formats to ensure the themes are solid foundations for further investigation by adding rigour to the data collection itself.

This process, of sharing research and discussing findings with other academic fields, strengthened my research capabilities and my resolve to represent the truth in evidence even

when that truth meant a deviation from what had been done previously and was accepted as a known contributor to teacher education. Here, I refer to the long-standing use of the ESCM, I myself had used for many years in teacher induction programs.

From these periods of doubt and questioning came reflection and writing, and then the data led me to new themes and exciting new developments, that when tested in classrooms, demonstrated positive and productive changes in teaching practices. This period led to Phase II in the research, a new ethics application and a co-devised survey to establish the validity and stories behind the new ideas on how affect, cognitive load and teacher decision-making could be the fulcrum to classroom environment. These were the initial patterns found through the classroom observations that set teachers apart and led to the desire to better understand the differences among teachers.

The process of becoming a researcher has found me transition regularly between periods of excitement, exhaustion, and at times remarkably close to walking away from my research. Confronting your own beliefs through evidenced based practices is hard to do until you completely trust in the data and learn to look through the data with acknowledgement of the bias you bring to the research yourself and how this bias must be included, managed, and removed from the data to move forward. As with many research candidates, my journey was one filled with challenges and from these challenges my best work emerged.

At the close of this section on my personal changes as a researcher, I leave this journey satisfied with the work I have done. I have created the Four Dimensions framework and shared my work with numerous teachers of whom continue to acknowledge and share the benefits this program has made to their teaching lives. This framework would never have become what it is without the interrogation, drive, and deliberate questioning at every cornerstone of my PhD journey. The practicality of stepping out from teaching to pursue and provide teachers with access to my research while trying to complete my PhD and build a business from the ground was at times beyond achievable. The exhaustion however was balanced through the moments that teachers told me I had changed their professional practice, and those that told me they were teaching better than ever before; those moments made every single minute worthwhile.

I always wanted to make a difference, as a teacher, a leader, and as a researcher. I now make a difference every single day, and while the travel and living out of a suitcase is the new normal for me, every day I love going to work to do the work of teaching and to finally see a career evolve into what I had hoped it could be from the beginning. Within this thesis I hope that the passion and drive I have for this calling was evident. The following

sections provide the contributions that my research offers to the educational sector in Australia and with potential for application on an international platform.

As a teacher, former administrator in the education department, and an educator of teachers in Four Dimensions, much of my career has involved positions addressing inequities in access and engagement to schooling for students. Undertaking this research was a realisation of the ways in which I could make the difference I had always wanted to, in an ongoing attempt to improve the education for all students through a better understanding of what influences teachers in their classroom decision-making.

9.5 Responses to the research questions

Student behaviour is most often associated with teaching practices, student achievement, wellbeing, and the decisions teachers make that impact on classroom environment. In addition to student behaviour, this research found that the influence of cognitive load and affect on teacher-decision-making changed classroom environments. Teacher decisions potentially changed the behaviour of students based on the initial interaction between the teacher and student through reactive or proactive teaching practices. Therefore, teacher-student interactions are considered the greatest contributors to the classroom environment.

Notably, the influencing elements of cognitive load and affect hold varied weighting or influence on individual teachers, based on prior experiences and their associated views around their role in classroom behaviour management. Through language used in interviews and classroom observations of teaching practices, it was found that different teachers placed different levels of significance on the choices made in managing classroom behaviours. Through interviews, observations and survey responses, the influences of cognitive load and affect in decision-making were identified. The findings indicated the need for careful design of professional learning programs for new knowledge and skills to inform changes in current teaching practices.

Furthermore, the survey data from 123 teachers across Queensland and the Northern Territory, and State, supported the claims that the Four Dimensions framework provided benefits of a simplified approach, and that the simplicity of the Four Dimensions framework covers all choices possible in classroom decision-making, inclusive of those required for classroom behaviour management. The Four Dimensions have the capability to guide and inform teacher decision-making in teaching practices to reduce intrusion to the flow of

learning and enhance productive teacher-student interactions. Productive teaching and learning environments lend themselves to reduced cognitive load for teaching and increased states of positive affect for teachers.

The time teachers take to consider choices can be viewed as spaces around the decision themselves. Acknowledging these influences, or spaces around decisions, contributes to an improved understanding of how and why different teacher decisions occur. Offering a multitude of unexplored avenues to consider for professional development, induction programs, university education, support, and adjustments to decision-making processes in teaching practices. This chapter provides the summary of these findings, including a response to the research questions about the elements that influence teaching practices, and a discussion of implications, limitations, and opportunities to further extend this body of research. Each section expands on the literature and findings presented in previous chapters and in the hope of providing clarity to the reader of their usability in the field, a number have graphics attached to demonstrate their intended use in a professional learning context for teachers in practice.

9.5.1 Influence of cognitive load and affect on teacher decision-making.

In Phase I, the analysis of interview and classroom observational data, gathered from eight secondary school Australian teachers in Queensland, demonstrated that cognitive load and affect influence teacher decision-making in teaching practices. The difference among teachers was found through distinct variations in the patterns of teacher language used to describe their teaching. Teachers who self-reported positive affect in classroom behaviour management, were able to make decisions more quickly and reframe their thinking due to a calmer approach to the situation. As opposed to teachers who reported negative affect in classroom management practices when they could not gain a sense of control over their classroom environment.

The two elements of cognitive load and affect were found to be consistent differences between teachers reporting productive teaching and learning environments and those reporting negative classroom environments. Teachers who reported productive teaching and learning environments consistently showed reduced cognitive load and states of positive affect. When affect was negative, established through interviews, and cognitive load was high. These findings were established through observations that recorded higher incidence of

reactive teacher interactions with students, teachers reported negative classroom environments.

In decision-making the choices available to a teacher to consider in any situation is complex and the use of rational models in decision-making would force judgement of a problem as an oversimplified psychometric process, rather than acknowledgement of the taxing load it places on teachers. Such an underdeveloped approach to understanding teacher decision-making runs the risk of presenting a false picture of the work of teaching, and therefore sets teachers up for failure due to the oversimplification of teaching tasks. In respect of the complexity of classroom environments and the workload expected of teachers, the deliberate selection of a qualitative methodology for this research was, in part, taken to avoid trying to fit teacher decision-making into a predetermined framework that would inhibit the rich stories of the individuals for whom the experiences were lived. The study did not attempt to weigh the value of different factors in terms of their strength of influence of one event over another, but to recognise what elements influence the decisions being made by teachers in their teaching practices.

Determining which elements appeared to have the greatest impact was judged in this study on the volume of information or discussions by teachers triggered by different questions in the initial interviews. Questions asked of participants, triggered emotive responses surrounding their beliefs and attitudes they had to their teaching practices. These findings were then compared to the decision responses observed in classroom observations, the individual context of teacher experiences and their reflection on the acquirement of skills to prepare them for classroom behaviour management. In their responses, participants consistently referred to the competition between curriculum and behaviour conversations that take up space in their teaching day as causing frustration. Furthermore, the tone of a classroom, and the likelihood of on-task student behaviours, influenced how teachers viewed and responded to all behaviours. From the data presented in chapters five and six, teachers reported that their knowledge and success in classroom behaviour management was ad hoc and with very minimal training that gave guidance or preparedness. Participants stated they were not prepared for the significant time and skill that was required to reduce behaviour disruptions and increase curriculum time in daily work.

It was found that classroom behaviour management practices influence the learning environment, the outcomes of students and most importantly to this study, the decision-making of teachers. As discussed in chapter two, the behaviour of students is a contributor to a teachers' beliefs about the environment in the classroom and the backgrounds, attitudes to

learning, and education of these students are believed to have a great influence on the classroom environment. Teachers who blamed external factors as key contributors to classroom disruption were more likely to use words of negative affect. In the same chapter, productive learning environments were espoused throughout the literature to be based in proactive teaching practices; as such, the skills and knowledge teachers have in managing classroom behaviours are of paramount importance.

At the foundation of this study was the acknowledgement that every human decision is potentially different, even when made within the same context or similar situations. The contexts in which decisions are made differ and will be influenced by the person making the decision themselves. Herein laid the basis of the first question this research aimed at addressing through what influences teacher decision-making in the classroom? The findings from this study demonstrated the significant influence that cognitive load and affect have on teacher-student interactions.

Through the language of participants, it was evident that when describing classroom environments, the patterns across the research indicated that teachers from the same school, instructing the same students, can have quite different interactions and memories of similar interactions. The difference among teachers and the elements that influence the decisions different teachers made lay within the actual interactions between teachers and students. Teachers who reported more positive interactions with students had similar responses to unproductive behaviours of teachers who reported fewer positive interactions.

While the phrase 'relationships matter' is well used and referenced across the literature (Strader, 2018), the findings of this study went beyond the surface comment that relationships were important. It led to a deeper understanding that teachers who were focussed on the behaviour over the curriculum, at the expense of productive teacher-student interactions, found themselves having increased negative interactions with students. This linked to frustration at loss of curriculum time in teaching, loss of curriculum time with other students while managing the disruption and increased negative feelings towards the student who caused the disruption. The potential for teacher decisions that are made within the same school with the same policies and values, to result in vastly different outcomes for both students and teachers, consistently retuned to the initial interaction a teacher had with a student. It was found that the greater the gap between the age of the teacher and the students, possibly indicating generational differences, the more likely terms of negative affect were used to describe students' non-compliance. The changes in society impact on classroom practices were detailed in chapter two.

To succeed in educating the youth of any generation, schools cannot remain passive and must shift in practice to match if not surpass the requirements of those they are educating. In their goal of educating, schools must aim to be ahead of changes in societal shifts, educational changes, and teaching practices, to best situate themselves as productive educational facilities they inadvertently place increased pressure on teachers to enact the change in their classroom work. This constant request to change practice results in change fatigue that is demonstrated in comments by participants of '*what comes around goes around*', '*everything old is new again'* and '*just let us do the work of teaching'*.

It is easy to say that there are no quantitative methods that could hope to measure all the various influences acting on any individual event within a teacher-student interaction at a single moment in time, while also accounting for the irrational, and unpredictable nature of human behaviour. What can be measured are the influences that played a significant role in the teacher-student interactions that led to positive or negative outcomes. The two elements evidenced to influence these interactions were the cognitive load and affect of a teacher when considering choices in their decision-making. All participants demonstrated shifts in words of affect dependent on the interactions and climate of the classroom, and these interactions and affect influenced decisions.

Furthermore, the affect of a situation increased or decreased the cognitive load of the decision-maker, and the higher the cognitive load the less working memory remained for the basic decisions needed in their daily work. Both cognitive load and affect influenced teacher decision-making in classroom practices. This study supported the link between stress in teaching to higher cognitive load that reduces the capacity for teachers to continue to do some of the basic work of teaching, leading to extensive frustration at the system, the students, the society, and themselves as they see they are unable to competently complete what should be rudimentary tasks. This stress can be linked to multiple external factors, but consistently participants linked their classroom stress to unproductive student behaviours and the interactions that they believed took away curriculum time from the teacher and the class. The need to reduce cognitive load and provide opportunities for positive affect in everyday teaching was evident.

9.5.2 Changes in teaching practices after Four Dimensions training

When the focus is removed from classroom behaviour management to the creation of productive teaching and learning environments, teacher student interactions change. These

changes to teacher behaviours, change the flow of learning in the teaching and learning environment. The language patterns from the survey responses presented in chapter eight, after participants had attended the professional learning program of Four Dimensions, showed that teachers moved from reactive teaching practices to proactive and preventative teaching practices. While teachers reported that it was difficult to change their long-formed habits of practice, they also stated that it was a worthwhile process that positively impacted on their classroom decisions. For example, one teacher stated '*this stuff is weird, but it works'*. In addition to feedback from the Four Dimensions workshops, when surveyed, participants reported increased reflection in their own practice based on the two simplified terms for Green and Amber interactions. Through the simplicity of the framework, teachers reported that they could change these in the middle of a class. Green interactions were based on the terms of *Expect* and *Reinforce*, while Amber interactions were based on teacher responses to student behaviours in the Dimensions of *Redirect* and *Follow through*.

The Four Dimensions professional learning program supported the findings in chapter five on decision-making, through an increase in a teachers' awareness of the impact their actions had on classroom environment and shifting the way participants viewed their interactions with students. These findings were further supported by the data analysis presented in chapters five and seven. Teachers shifted their initial response in a teacher-student interaction from one of redirection, to an interaction based on classroom expectations (*Expect)* stated or recognition of students meeting the expectations (*Reinforce)*. They used the clear and defined process provided in the Four Dimensions framework by reducing interactions with students who were disrupting the learning space to be less intrusive to the class through choosing different teaching actions.

Teacher actions changed to more positive interactions with students after the Four Dimensions professional learning program made explicit the knowledge and skills of how teacher interactions influence classroom environments. This simplicity was demonstrated in the teacher handout used in the training (Appendix M) and was reduced to three teacher decisions in any integration that can be represented through the acronym ERR (Expect: Reinforce: Reduce). What is *expected*, who is doing it and can be reinforced for meeting the expectations first (the interaction) and how can the redirections be delivered through reduced public nature to minimise interruptions to the flow of learning for all students?

In the initial interviews presented in chapter five, teachers had a strong focus on the problematic nature of disruptive students and referred to external factors, which were outside the control of the classroom, as responsible for classroom disruption with little control over

these behaviours. The underlying principles of Four Dimensions challenged assumptions that centralised the student as the key contributor to disruptive classroom environments. The teacher was positioned as the crucial change in the daily decision-making processes in the establishment of the classroom environment rather than a passive bystander reactive to poorly behaved students. As presented in chapter two, this is not to exclude the obvious role student behaviour plays in any situation which results in disciplinary decisions around classroom behaviours. However, the course of action taken by the decision-maker, in this case the classroom teacher, has the greatest influence over the outcome and hence the tone of the classroom environment. When the behaviours of the adults in the classroom change, the classroom environment changes. The Four Dimensions professional learning program provided teachers with a framework with a concise set of steps, providing order to teacher interactions, from which teachers consistently reported that their classroom environments changed.

Changes to teaching practices were represented in both the language used by teachers to describe their classroom experiences, and interactions with students alongside evidence of reported changed teaching practices. From the analysis of the survey data presented in previous chapters, the teachers who completed the Four Dimensions training stated an increased sense of calm, adding to positive affect, due to the simplicity of the framework. Their reported changes to teaching practices were evidenced in their descriptions of positive language, expectations, and proactive management skills far more often than in first round interviews. The chapter discussions offered a shift in both teachers focus and thinking within their classroom interactions with students. Instead of focusing on how to stop unwanted or disruptive classroom behaviours, teachers focused more on encouraging appropriate behaviours and interacting with students when they were meeting expectations.

Through the focus on preventing student disruptions through the use of proactive teacher actions, participants found that when the work was put into students who were on task and interactions based on the expectations delivered, these interactions reduced the likelihood of more students moving off task. This shift in how teachers interacted with students, reduced the need for teacher-student interactions around unproductive behaviours and one teacher even stated that '*even the naughtiest of students in classroom are following instructions*.' Students responded to the adult attention, given through positive teacher interactions and a focus on curriculum, which provided more regular interactions based in curriculum conversations than behaviour conversations.

9.5.3 Impact of teacher decision-making on the flow of curriculum delivery

The period from when a teacher is trained in pedagogy and classroom behaviour management practices (one generation), and they are teaching students in classrooms (a younger generation), can potentially span one to three generations. The societal changes in a single generation were substantial, and as discussed in chapter two, these changes impact classroom environments. Many teachers continue to teach the way they were taught. This gap is evident between what is known and what needs to be known to manage student behaviours to create productive teaching and learning environments.

The historical use of punitive reactions to student behaviours continues to be evident in today's schools. This punitive form to classroom management, in response to low level, persistent student behaviours, in a time where children have been taught to have a voice and represent their self-identity, leaves teachers working extremely hard with little change to student behaviours. This is shown through data presented in chapters five and six and could be seen to be linked to the continued escalation of attrition rates from the teaching profession as reviewed in chapter two.

In chapters five and seven, it was evidenced through the Classroom observations, that teachers used more reactive management styles when responding to student disruption, before any professional learning had occurred. Early in chapter six, concerns were established over the much referred to use of the Essential Skills of Classroom Management (ESCM) by participants, and the data in chapter eight, showed that while confidence in the ESCM was reported as high by participants, their ability to recall and implement the ten skills was extremely low. This finding around high confidence in the ESCM, alongside low ability to recall the ESCM from this study, supported the same findings by Hepburn et al. (2020).

These insights support those teachers who welcome professional learning programs that provide the link between what was known and what needs to be known in today's classrooms to create productive teaching and learning environments. Teachers are happy to do the work expected of them, when they are provided the time and space to understand the impact their behaviours will have on classrooms through professional learning programs that provide immediate knowledge and practical skills for implementation.

When teachers were trained in Four Dimensions, they reported immediate ability to use the knowledge skills in classroom decision-making. This changed their interactions with students based on the framework of Green and Amber interactions, or *Green footprint and*

Amber footprint as referred to by teachers in conversations. The Green footprint supported patterns in teacher classroom interactions that did not make public the behaviour conversations with the students who were unproductive, but more importantly did not stop students who were working, from continuing their work. In Four Dimensions terminology, teachers increased the flow of teaching and learning.

9.6 Contribution to knowledge

The onset of this thesis used the decision-making in the landing of Flight 1549, on the Hudson River by Sully in 2009, as an analogy to teacher decision-making. Sully's decision saved the lives of 150 passengers. His decision was documented as one that very few other pilots would have made when placed in the same position. What influenced him to make a different decision to most others that day?

In the single millisecond, that it takes to decide, the choices included or excluded from the outcome can appear to be immediate reactions with little consideration of choices. Decision-making can appear to an outsider as an intuitive or momentary response. What is less obvious, to those external of the decision-making process of an individual, are the multitude of cognitive processes that occur in under a second to inform the decision-maker on what choices to keep and the choices to discard as the decision-maker works their way to a final action. These interwoven patterns in consideration and responding to certain stimuli are the foundations for future decision-making practices and inform the choices used in that process. These choices are based in knowledge, skills, and prior experiences.

In classrooms, the shift that is documented as desired by Departmental policies for productive teaching and learning environments, lies in a move away from reactive teacher-student interactions to interactions that occur with a premise of proactive interactions and the likelihood of positive interactions with students when expectations are met. Chapters four through to seven discussed the data analysed to support the process that could be applied to teacher decision-making to provide teachers with the knowledge and skills to shift this practice. To reflect this knowledge from the study the connection between knowledge, skills and decision-making can be seen in Figure 9.1.

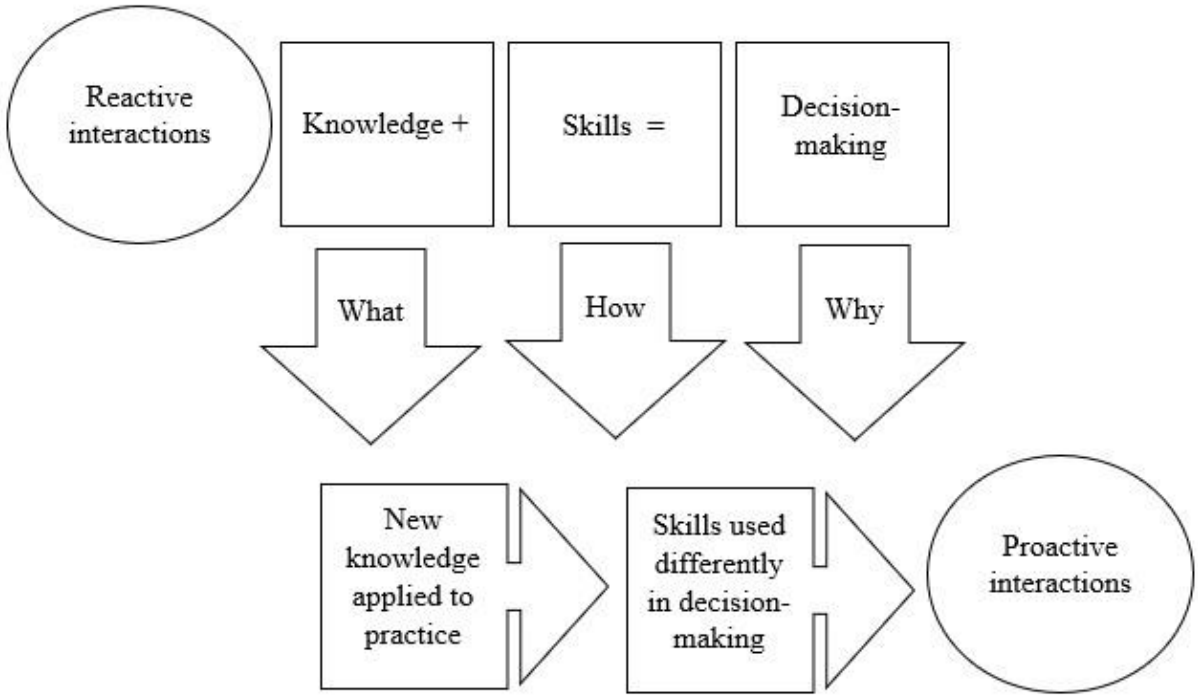


Figure 9. 1 Four Dimensions in the classroom

For teachers to change from their reactive teaching practices to more proactive practices, the habits of using previous reactive skills and the knowledge that underpins those teaching skills, demands the need for professional learning programs to support shifts from reactive to proactive teaching practices. Professional learning programs provide teachers with clear purpose and understanding of the need for change. Classroom changes reflect those changes in society, which are impacting the classroom. This study demonstrated that teachers are willing to try new skills and apply new knowledge. The Four Dimensions framework provides simple changes to current teaching practices that lead to lowered cognitive load, increased positive teacher affect and ultimately productive learning environments, measured by increased time and space to do the work of teaching.

The research was implemented because of anecdotal one-off comments by teachers who demonstrated different patterns in thinking and interacting in classrooms, which resulted in feelings of positive affect. Change can begin with one person doing something differently. The next section will examine the contribution to practical knowledge, theoretical knowledge, methodological knowledge, and policy knowledge.

9.6.1 Contribution to practical knowledge

The most significant impact on teaching practices evidenced through this study was found in the contribution it has made to teaching practice. It is evident from the findings presented

in this study, and developed through the conceptual framework in chapter two, that the environmental and interpersonal contexts of teaching are influenced by the cognitive load and affect on teacher decision-making in the classroom. No teacher interviewed for this study claimed that decision-making was an easy process or that the outcome was ever guaranteed.

At the onset of the study, participants were more inclined to align teaching pressures to external forces and associated blame on changes in society. The emergence of patterns between two distinct groups of teachers, found that the decisions teachers made in classroom practices, where fundamental in the interactions they had with students. These interactions changed based on who the teacher was, rather than who the student was. The teacher was the fulcrum to productive teaching and learning environments.

What was less evident was the knowledge and skills that teachers used, to make these decisions, or what informed a different outcome based on the choices considered by a teacher when making the decisions to change the interactions between teachers and students. From the data collected in Phase I, themes emerged that found that classroom behaviour management was not a set of ten essential skills, but rather a balance in teacher-student interactions that was influenced by teacher cognitive load and affect.

After reflecting, reviewing, and analysing data, the researcher found that implementing the Four Dimensions framework in schools was reported by teachers to: reduce cognitive load, change affect in classroom management practise and increase curriculum conversations over behaviour conversations in classrooms all due to a shift in decision-making. The Four Dimensions framework provided: a simple framework resulting in easy implementation; made collegial feedback easier and more specific; reduced teacher cognitive load; increased teachers' positive affect; increased time and space for teaching; increased curriculum conversations; increased a teachers' ability to reflect in practice; implemented a common language and as such improved collegial feedback conversations; was reported to add to positive school morale and most importantly increased productive teaching and learning environments. Each of the ways that the Four Dimensions framework impacted teacher practice is discussed in more detail below.

9.6.1.1 Four Dimensions strength is its simplified, yet not simplistic framework

The Four Dimensions framework is characterised through the simple graphical representation that shows the balance between the Green and Amber teacher-student interactions. This format of four, simple to recall, dimensions was found in the patterns of

teacher language in classrooms as discussed in chapters six and seven. Teachers with high levels of interactions in green actions, *Expect* and *Reinforce*, reported positive affect and increased teaching time. Due to its simplicity, the framework was easily implemented and provided ease of recall and therefore increased awareness in immediate teaching practice.

The balance of teacher interactions observed in productive teaching and learning environments were found to be approximately 80% Green teacher interactions and 20% Amber teacher interactions. The findings presented in chapters five and seven clearly articulated the need for teachers to find a balance between their proactive and reactive interactions with students. Reactive teacher interactions were found to only disrupt an unproductive learning behaviour from a student, with minimal evidence of changing the likelihood of future episode of the same or similar behaviours. To ensure this concept is more easily understood, the graphical representation of these findings of the balance of Four Dimensions in productive teaching and learning environments, can be seen in Figure 9.2.

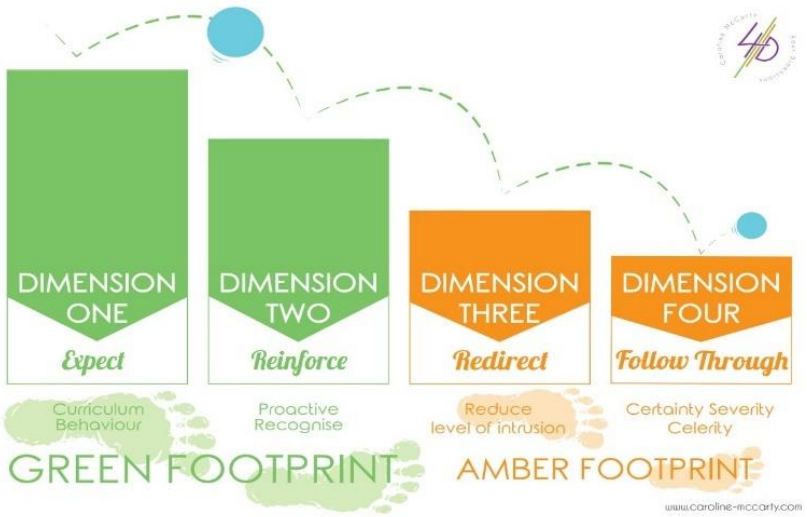


Figure 9. 2. Four Dimensions framework

The simplicity of the framework led to quick changes in teaching practice and shifts from reactive interactions with students to proactive teacher actions. Due to the ability of teachers to implement the framework immediately after training and observations, teachers noticed instant benefits to classrooms as they used less intrusive teacher interactions when managing student behaviours. Furthermore, as demonstrated in chapter eight, teachers began to use curriculum conversations, to engage students in the learning, which further reduced the need for behaviour conversations. These changes were all due to the simplified nature of the framework and applied through a three-step process of Expect, Reinforce and Reduce the

public footprint of redirections (ERR). This three-step process was instrumental in increasing a state of automaticity in practice.

9.6.1.2 Four Dimensions introduced the concept of Mob buy-in

From the comparison of teacher actions to changes in student behaviours it was evident that the Four Dimension framework provided an easy to apply reference point for teachers on what actions to use in which circumstances to reduce interruptions to the flow of learning. The patterns, in teaching practices were able to be aligned to guide teachers in frequency of interactions, based on the groups of students identified through the continuum presented in chapter two. The continuum differentiated between student behaviours that cause mild to significant interruption to the flow of learning, a concept that was also outlined in chapter two. The teacher actions that support changes to the behaviours identified in this continuum are represented below in Table 9.1 and in Appendix J.

Table 9. 1 Alignment of Teacher actions and student behaviours

Focus of each Dimension	**Teacher actions**	**Student behaviours**
Dimension One *Prevention*	Expectations Cueing Peripheral vision Non-verbal instruction Verbal instruction Classroom Scan	All behaviours with the intent to reduce the likelihood of behaviours occurring in the majority to provide time and space for the few students who need teacher direction
Dimension Two *Recognition*	Instruction encouragers Reinforce and Recognise Describe positive reality	Reducing the students who are sometimes on task and occasionally off task with the intention to keep them on task longer
Dimension Three *Reduce intrusion to others learning*	Selective attending Curriculum refocus Cue through others Proximity Non-verbal redirections Question to redirect Close talk Humour to redirect Pause in teacher talk Students' name called Verbal redirection	**Curriculum focussed and less intrusive** Students who can be redirected to the learning for low level disruptions through less intrusive actions **More intrusive** Students who need discussion around specific behaviours through closer individualised talk or when safety issues are a consideration.

Dimension Four *Remain in classroom*	Indicate post-lesson discussion Give choice Follow through	Managing students with persistent or increased disruption out of class time

Continued flow to learning (discussed in chapter 2.3.2), provides productive teaching and learning environments and reduces teacher cognitive load and negative affect. As discussed in chapter seven, and demonstrated in Figure 6.3, when the class is divided into three groups, Group I students work no matter whose classroom they are in, Group II students work in most instances but are easily distracted from the learning and Group III are students who have complex needs through behaviour and or curriculum support and need more teacher time and space.

In every classroom, these three groups of students were identified based on their engagement and response to teacher interactions. The interactions a teacher had with these groups of students, across a classroom, were found to increase whole class participation or reduce it. This observation from the researcher, led to the idea that group engagement was based on different teacher-student interactions and impacted the flow to the teaching and learning environment. Combining my experiences from the work I had done in Indigenous communities, and the research conducted by Maslow and Lewis (1987) on creating a sense of belonging for students, the term Mob buy-in was used to describe this phenomenon base don't eh findings shared in chapter eight.

Mob buy-in, when applied to the Four Dimensions framework, is the expectation that teachers know the children who are sitting in their classrooms, as their students. Through knowing the children in the classroom, teachers can spark the curiosity of learning and differentiate for learners to increase the teaching and learning time. Mob buy-in signifies that all teacher actions are mindful and chosen with the intention to reduce the public nature of behaviour management conversations through a focus on returning all students to the curriculum. In teaching practices, the teachers' job is to ensure all students can access the curriculum through a sense of belonging in that classroom. To apply this knowledge from the research to a graphical representation or conceptual model for professional learning for teachers, this concept is represented in Figure 9.3 of Mob Buy-in.

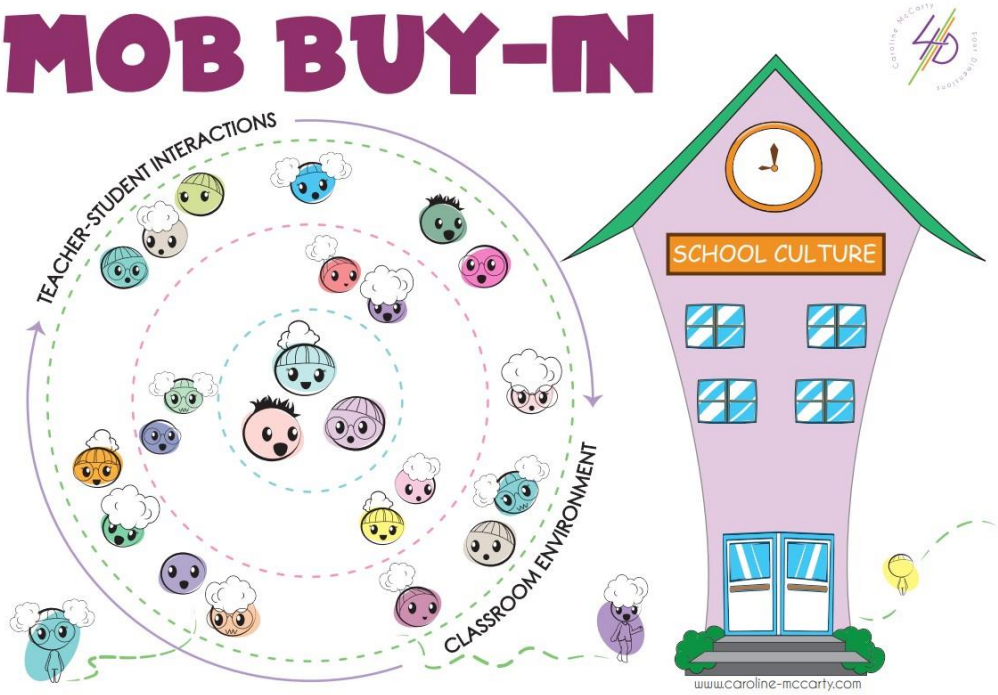


Figure 9. 3 Mob buy in

To pique student curiosity in the teaching and learning, when teachers build interactions around the Four Dimensions, they increase the likelihood of more students on task, thus providing teachers with the time and space needed to address and attend to those students who require attention to manage their behaviour impulses or support their curriculum needs. When intrusive teacher actions are used rarely, they increase effect on whole class, and they reduce the interruptions to curriculum flow for students who are in different groups as can be seen through the different rings in Figure 8.3. The groups represented, can change with some classrooms having more students off task than on task – the groups are fluid and flexible and the teacher's role is to increase the curriculum time for all students in each group.

The Four Dimensions framework, when applied to teaching practices, reduced the frustration and exhaustion in teaching, adding to positive affect and decreasing the cognitive load in decision-making around classroom behaviour management. While the terms in this study are not knew, such as relationships, positive classrooms, preventive, and reactive management techniques; the specific *how to* actions for teachers to apply in creating productive teaching and learning environments through teacher-student interactions are pivotal in their ability to reduce cognitive load and increase positive affect in teachers.

9.6.1.3 Implementing Four Dimensions reduced cognitive load

The survey results showed that 98% of teachers who used Four Dimensions found it easier to make choices immediately in response to classroom disruption and that this immediate recall increased automaticity in using proactive teacher actions in response to student disruptions. Increased automaticity made decision-making quicker, and, as teachers became more practised in the skills, they reported less time and effort was needed in choosing a positive teacher-student interaction. This ease of recall reduced cognitive load as teachers were able to draw upon choices in the decision-making process with increased speed and a declutter of ideas from which to draw upon. The simplicity of Green Footprint or Amber Footprint with consideration of reduction to intrusion to the flow of teaching and learning, reduced cognitive load. Reduced cognitive load leads to increased working memory for teaching. This approach to teacher decision-making was a three-step process represented by the acronym of ERR (Expect: Reinforce: Reduce). Teachers who stated *expectations* with high frequency, interacted with student meeting expectations first (*Green footprint* using reinforcement) and reduced their redirections (*Amber footprint* of *Redirect* and *Follow Through*) when managing classroom behaviours, were found to have far less disruptions in their teaching spaces. This three-step process was not linear, and teachers moved between the three options continuously in creating productive teaching and learning environments. Additionally, the need to redirect was reduced due to the increased curriculum flow for all students.

9.6.1.4 The Four Dimensions framework changed teacher affect

With a reduced cognitive load comes increased working memory for daily routines and tasks, and increased likelihood of positive affect in teacher-student interactions. A high cognitive load is related to reduced working memory available for regular decision-making process, and this is therefore linked to teacher frustration and feelings of exhaustion and inability to complete tasks. The reverse of this is reduced cognitive load, increased working memory, and therefore increased positive affect in doing the work required of teaching.

From the survey, 97% of participants stated that they were able to see a positive change in the way they viewed classroom interactions with students when they focussed on teacher actions that reflected a Green Footprint. These changes were identified from interview transcripts discussed in detail in chapters 4 and 6. Positive affect increased when teachers

used preventative and proactive teacher actions to create and maintain productive learning environments.

Teacher language across 100% of participants increased in positive words used to describe their teacher-student interactions, positive affect, after training in the Four Dimensions framework. Positive affect in teachers leads to increased likelihood of proactive actions and a reduction in reactive responses to student disruptions. The data, through observations, showed a direct link to teachers who had more instances of Green Footprint on their observation sheet, collectively had a reduced number of student disruptions for the same period in their teaching space. This suggests that the increased use of proactive teacher skills reduced the need for classroom behaviour management itself. It is unknown if the increased positive affect changed teacher decision-making, or if the change sin teacher decision-making influenced teacher affect. What was evident from the findings was that a simple framework provided the guidelines to refer to at any time in teaching practice and teachers felt in control of their narrative when interacting with students. These interactions were foundational in the way teachers saw their role in maintaining a flow to the delivery of their curriculum.

9.6.1.5 Using the Four Dimensions framework provided time and space to teaching

Of participants, 99% of teachers reported more time and space when they were using the 80:20 balance, of Green Footprint to Amber footprint, for teacher-student interactions in teaching practice. Participants described feelings of frustration when they didn't feel they had the time to do the work required of them. The term space was identified as a word able to describe the environment in which teachers felt most accomplished to do the work in a timely manner. The one percent of teachers who reported it did not increase time and space for managing other students also stated that they used the skills in their most difficult classroom and found it had the reverse outcome.

In developing skills based on the knowledge in the Four Dimensions framework, it was recognised that teachers improved the quickest when they had time to practice new skills in classrooms with less disruption. They benefited from choosing a safe place to develop skills, or times during instruction that are more likely to succeed while developing skills, over a period to increase automaticity in responding with a Green footprint. Habits of practice found teachers returning easily to Amber actions when tired or frustrated. It also reflected that when asking the teachers to change their behaviours, time should be considered because students are remarkably familiar with what to expect in a teacher-student interaction and this

can cause some students to be less responsive in the first instances as they expect teachers to return to their usual habits of practice.

9.6.1.6 Professional learning in Four Dimensions increased curriculum conversations

The survey results showed that teachers who implemented Four Dimensions in their teaching practices found more time and space for curriculum conversations and noticed a decline in behaviour conversations. Using a *curriculum first* focus even when managing minor disruptions led to curriculum conversations to return students to work, over behaviour conversations that stopped the student and other students from working. This focus created an increase to the flow to the learning and uninterrupted curriculum delivery. The more teachers focussed on the flow of learning, the greater the interactions were on curriculum-based conversations, even when students were distracted. Teachers turned to curriculum to re-engage students over a conversation around behaviour.

Understanding how teacher-student interactions impact the focus on curriculum conversations in the classroom, led to the inclusion of the term flow of learning, or curriculum flow, which in this study represented the teacher-student interactions that did not disrupt the flow of learning of the whole class and encouraged students, off-task, the greatest opportunity to reengage in learning. As discussed in Chapter five, cognitive load and affect influence teacher decision-making. The Four Dimensions framework provides a structure for teachers to find a state of flow, whereby decision-making is situated within a state of heightened awareness around the impact decisions make on teaching and learning environments, but with a level of automaticity that reduces cognitive load and provides room for increased working memory. Building on the literature presented in chapter two, explaining the motivational concept of flow, the quality of teacher-student interactions as a function of cognitive load and positive affect is presented in Figure 9.4.

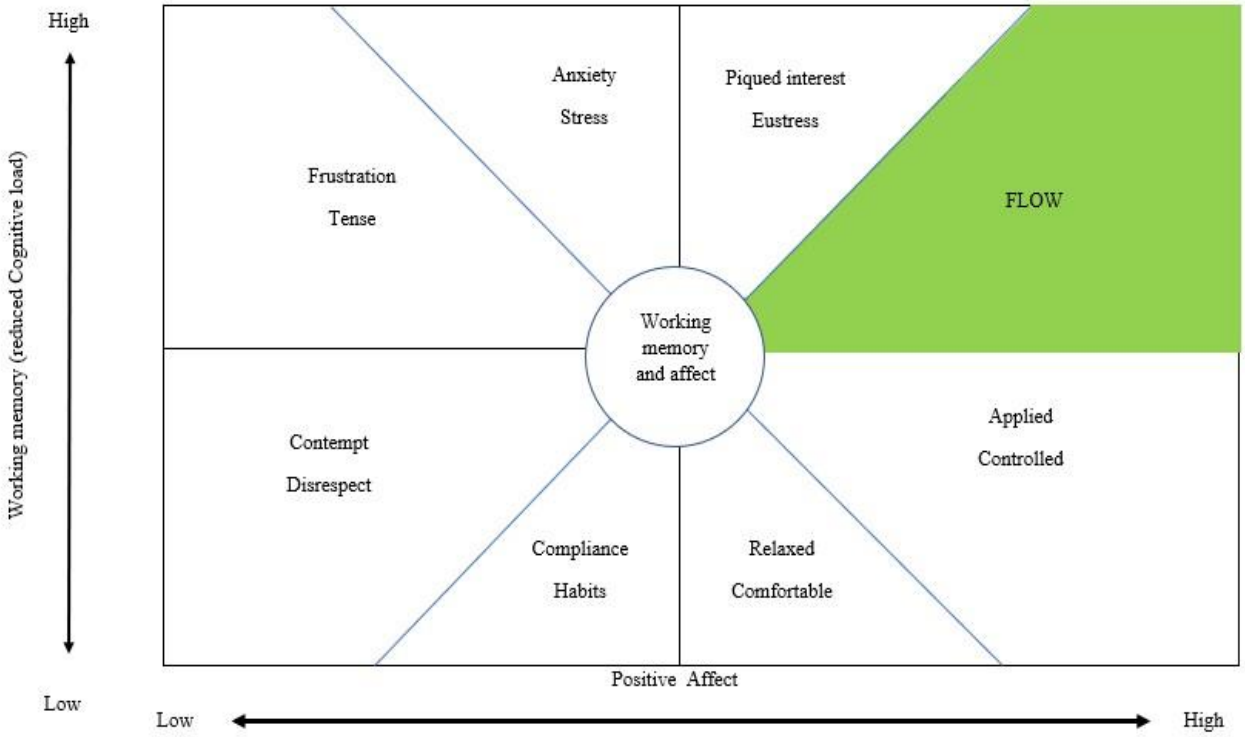


Figure 9.4 The quality of teacher-student interactions adapted from Csikszentmihalyi (2014b).

When negative affect is high and cognitive load is low, teacher-student interactions can result in states of compliance, or contemp. On the other hand, when negative affect is high and cognitive load is high, frustration, anxiety and stress will influence the decision-making process. In contrast, when there is high positive affect and reduced cognitive load, teacher-student interactions will add to the flow of learning. The early work on flow by Csikszentmihalyi (1975) was instrumental in forming a similar, yet different application of his research on flow, to the teaching and learning environment.

The state of flow, in teaching and learning, requires an ability to apply immediate refection in practice, to adjust and reset the focus, when an imbalance has occurred between teacher and student interactions. This imbalance is skewed towards behaviour conversations at the expense of curriculum conversations or flow of learning for whole of class. When this imbalance is found, or felt, the immediate application of the Four Dimensions framework, Green and Amber footprint, guides choices in teacher-student interactions. The flow of learning was contingent on reflection in practice and heightened awareness of the decisions made by teachers during their teaching.

9.6.1.7 The Four Dimensions framework increased reflection in practice

Teachers with increased awareness of the impact of their actions on teacher-student interactions led to changes in those interactions in teaching practice. Heightened awareness also reinforced for teachers what was working and when their teacher actions changed the environment. This process shifted teacher thinking from reflection on practice, after the event had occurred to a more reflection in practice form of thinking. Resulting in teachers being able to change their interactions and the classroom environment in a timely manner. Reflection in and on practice was documented in chapter two. To increase teacher changes in classroom practice, there must be an increased awareness and a simple adjustment process to be employed, if teachers are to reflect in practice. While reflection on practice occurs after the practice is completed, or in post observation conversation with a colleague or mentor who observed that practice, reflection in practice is based on the ability of change in the moment of practice itself. Such reflection in practice, provides teachers with increased positive affect due to an ability to change teacher-student interactions within a moment based on their assessment of any given situation. The easy recall used in the Four Dimensions framework provides that reference point for teachers to reflect in practice and make immediate decisions that impact flow of learning and teacher decision-making.

The Four Dimensions framework provided teachers with increased awareness in the skills used in teaching, and their reflection in practice. Additionally, it provided teachers with evidence-based data on what they were doing in classroom practices. Of the participants, 100% of teachers reported a sense of comfort in learning about the patterns of behaviour interactions and were happy that the tools they used could be used in a different order to significantly change the classroom environment.

In addition, training in the Four Dimensions framework provided teachers with increased awareness of the skills they used that were more likely to reduce intrusion to the learning environment of all students. This ability to reflect while teaching is developing skills in teachers to reflect in practice. The immediate shift in interactions from an Amber to a Green footprint was evidenced in observations, interviews, and survey data sets. The inclusion of creating increased awareness of teachers in classroom decision-making added to the benefits of simplicity in a professional learning program for teachers.

9.6.1.8 The Four Dimensions framework provided a common language making collegial feedback easier

Four Dimensions provides teachers with a common language, with 100% of participants replying that they had a clear understanding of the terms and definitions of Four Dimensions that linked to the overarching concepts of Green footprint and Amber footprint. This common language created a sense of non-judgement in collegial conversations and feedback around classroom operations became less threatening with teachers engaging openly in reflective practices and collegial feedback around teaching. It was demonstrated in this study that a common language leads to accountability in practice through defined terms that linked to the Four Dimensions framework for practice. This also included a reduced sense of pressure to fix or give advice in the process. When teachers were using evidence to guide their interactions with students and they could reflect to the simplicity of the Four Dimensions framework for making those interactions, teacher reflections on their practice were evidence based and not opinion based. This developed trust and confidence in conversations around practice between teachers.

9.6.1.9 Using the Four Dimensions framework increased productive teaching and learning environments

All the above contributions to practice lead to the establishment of productive teaching and learning environments. When classroom environments are productive, they statistically provide the foundation for improved student outcomes, increased teacher retention, improved wellbeing of staff and students and a positive school culture, based on research reviewed in chapter two.

All teachers benefit when working with an increased awareness in their own teaching practices. Reflection in practice avails itself to opportunities for deliberate decision-making in classrooms that lean towards preventative and proactive teacher-student interactions.

9.6.1.10 Teachers found Four Dimensions changed school morale

The teacher participants stated the improved sense of comradery and collegial engagement in both curriculum and behaviour conversations around students within staffrooms. When teachers collectively focussed on robust and solution focused conversations, the morale of the school changed. Another note of interest was that

participants reported that the feeling of a school culture can be reflected in the data from the Four Dimensions. The focus by teachers on what was working and doing more of that, rather than a conversation around what needed to change also increased positive school morale and changed the data in classroom observations of teaching practices.

9.6.2 Contribution to theoretical knowledge

Upon a review of the literature and theoretical models available in the field of decision-making, this study employed an eclectic approach in considering the theories of decision-making, combing ideas from professionally researched models in the field of organisational and business decision-making. The approach presented many challenges, including delving into fields outside of traditional educational paradigms such as law, economics, military and mathematic (Cooksey, 2000; Hargreaves & Heap, 2013; Hartle, 2004), to explore a wider field of decision-making research. No single theory provided the answers, nor were necessarily applicable to the educational context without adaptations to ensure probing questions were relevant to decisions in a school setting.

Considering this gap, the approach was taken to utilise language used by participants to record the affect associated with decisions made in classroom practice that could be triangulated with classroom observation data to compare classroom practices. What was unexpected in this triangulation of data were the development of definite patterns of teacher language and the footprint they used in classroom interactions with students.

Analysing the use of language of participants to describe their lived experiences in the classroom provided insight into the difference among teacher decision. The use of participants' language provided a foundation to better understand the influence of cognitive load and affect in classroom practices. This inclusion of language in data analysis enabled the inclusion of language through the lens of non-rational decision-making models to situate the researcher to better understand the decision-making of teachers.

Patterns of language showed increased positive affect when teachers had a larger Green footprint and reduced the public interactions in their Amber footprint. Green footprint reflected teacher actions with students that focussed on expectations *(expect)* and reinforcing *(reinforce)* appropriate behaviours, while Amber footprint reflected teacher action used to *redirect* unproductive behaviours. The more the Green footprint increased, the greater the reduction in a teacher's Amber footprint. This shift was reflected in language changes that aligned with terms used in positive psychology to reflect happiness, relaxed and positive

working environments. This revelation from the data supported Hattie's statement that the teacher makes the difference (Hattie, 2016) and furthermore the research answered the unknown question on *how* the teacher makes that difference, by demonstrating a clear framework, or balance, of what makes that difference.

The Four Dimensions framework clearly aligned patterns of teaching practices with *Green and Amber* teacher actions and those teachers who recorded data predominantly in the Green action reported productive teaching and learning environments. The different patterns in different teacher interactions were reflected in outcomes for teacher-student interactions around unproductive behaviours, where it was found that when the initial interaction made by a teacher was Green, this action predicted with confidence the likelihood of increased productive behaviour and curriculum conversations in the classroom.

The Four Dimensions framework provided a common language that supported a multiplicity of other evidence-based programs already operational in Australian schools. The easy to recall framework enhanced the use of other programs and provided teachers with the language and the framework to initiate interactions with students to support an increase in the flow in curriculum delivery.

Chapter two provided in depth descriptions of several key programs used to support engagement in classroom learning and positive classroom behaviours, including: Positive Behaviour for Learning; Functional Behaviour Assessment; and Restorative Practices, as three evidence-based programs used within Queensland schools. The chapter also outlined the importance of sound instructional and pedagogical models to support productive teaching and learning environments.

Each program was chosen due to the evidence-based nature of the program and the research that supported the programs development. Each program was underpinned with a significant body of evidence-based practices, detailed in chapter two, as providing teachers with knowledge in positive teaching and learning environments. Every program was found to be at a disadvantage in some area as to how teachers are to action the aims through specific knowledge and skills that would influence teacher decision-making with a focus on how teacher decision-making changes teacher-student interactions. This study provided a simple link amongst these programs that aligned common research and evidence-based practices through the Four Dimensions framework.

The data presented in chapter five demonstrated the benefits to shifts in teacher decision-making that impacted on positive teacher-student interactions. Furthermore, chapter eight provided the data and analysis of data to show the benefits of targeted professional learning

programs based in evidence-based practices. In other words, the Four Dimensions framework was easily adapted into current programs as they are based on similar evidence-based research that informed the foundation of the Four Dimensions framework. As demonstrated in Figure 9.5, the Four Dimensions framework and other key educational programs complement each other, rather than one needing to compete over the other.

Figure 9.5 Alignment of Four Dimensions framework with key paradigms

Mapping the common language features enabled the clear presentation of the influence both cognitive load and affect has on teacher decision-making and the influence they have on teacher-student interactions. Understanding these influences on teacher decisions provided greater insight into the teacher actions that will reduce behaviour conversations in the

classroom and increase the space available for curriculum conversations. This behaviour change is called Green footprint first and refers to the initial interaction of teachers to be based on proactive teaching methods and when interactions are required, they are embedded in a focus of curriculum, aimed at reducing the public nature of behaviour conversations. This focus provided evidence of a de-escalation of disruptive behaviours and a return to curriculum-based tasks.

9.6.3 Contribution to methodological knowledge

The balance of research into the problem of growing student disruption in schools has been significantly weighted in favour of examining the characteristics of students and policies, with decision-making and decision-makers often presented as objective, rational, and reliable. One of the most important findings from this study has been the focus on the teacher as the pivotal influence on classroom environment through their initial interaction with a student in any situation under any context, this data emerged from the lived stories of the participants and was established through language features and patterns that matched differences in observation data between teacher-student interactions presented in chapter eight. The contribution made by this research was in the use of participants' language to transfer their thoughts in classroom decisions making to their actions.

The measurement of teaching practice can be evidenced through classroom observations, but this measurement still relies on the interpretation and subjective nature of the classroom observer themselves. To enhance the data collected for this study, the stories teachers told were of utmost importance and to weave these perspectives into the fabric of the research design the language used by teachers was a key element of this research. Key words in context (KWIC) were adapted to apply a league analysis tool, used in fields of coding, to the patterns in language used by teachers (Luhn, 1960). Applying this tool to analyse language use by teachers in their classroom interactions and reflections on classroom practices, to an educational environment allowed these language patterns and features to be coded and patterns to be established from the complex data sets.

9.6.4 Contribution to policy

The Four Dimensions framework is not about positive language alone—it is about reinforcing expected outcomes to see the increase likelihood of expected behaviour repeated.

How teachers gain the knowledge and skills to shift their focus from classroom behaviour management to curriculum flow, is based in the policies that drive school procedures. This research has contributed to policy review based on a new lens of understanding how teachers make decision int their teaching practices.

The necessity for schools and systems to provide the scaffolding and embedded frameworks for teachers to acquire the knowledge and learn the skills required, to create productive teaching and learning environments is an essential inclusion in any good school policy and induction program. From the literature reviewed, there was a plethora of policies, procedures, and programs available to demonstrate how different schools outline the guidelines of desired behaviours of both teachers and students in achieving the educational utopia of positive education. Schools that have embedded the Four Dimensions framework as a foundation for teacher-student interactions shifted their school culture in positive ways, supporting Positive Behaviour for Learning and Positive Education paradigms as outlined in chapter two.

Furthermore, the Four Dimensions framework aligned with other programs used in Queensland State schools, including Restorative Practices and provided a strong foundation for the language required, and connections chosen in teacher-student interactions, to benefit the introduction of programs for students requiring a Functional Behaviour Assessment. These programs were detailed in chapter two. Current programs using punitive methods for classroom behaviour management teach students that teacher-student interactions are based on interactions of punishment. If this is the way students access adult attention, and attention is what they are seeking, then this pattern ion teacher-student interactions will be maintained, not changed. Such interactions also reinforce for student that they gain adult, or peer attention, through low level disruption. Teachers need to know how to shift these interactions to a curriculum-comes-first, position.

Policy changes that reflect needs and improved teaching and learning in school's benefit: students, teachers, administrators, and the community in which the students are being prepared to enter. The introduction of a framework on how to interact with one another benefited staff as well as teachers managing classrooms, in that the need for classroom behaviour management reduced significantly when teachers focussed on applying the skills as taught through Four Dimensions. The framework benefited schools to include Four Dimensions to support and strengthen the existing models of pedagogical practice and social emotional wellbeing in teaching and learning. The framework does not replace or displace current practices, but rather, with its depth in current research and consideration of inclusion

on what is working in schools through current paradigms, the transition to include the Four Dimensions framework in teaching and learning was reported by participants to be seamless.

Decision-making is not a neutral action, and failure to build awareness and capability in this element of classroom practice will make it difficult to break out of the increasing cycle of teacher attrition currently evidenced in schools. One of the unique contributions of this study was demonstrating the value of delving into a teacher's decision-making process to look at the various influences, beyond the behaviour of the student, which add to their choices in decision-making when responding to unproductive classroom behaviours. Using the Four Dimensions framework, the study provided a robust model and practical tool through which to map these decisions in context to achieve an appropriately detailed understanding of influences. The benefits to current and relative school-based policies are the addition to a workforce of the knowledge and skills that that prepare teachers to deliver on the stated expectations of positive behaviour matrices.

9.7 Recommendations and limitations

This study has provided an original contribution to the national and international conversation around positive classroom environments by exploring the influences on teacher decision-making. In making recommendations, it is important to remain circumspect through the acknowledgement and respect to the political, organisational, and personal complexities for each of the stakeholders involved in this conversation. Stakeholders include the teachers, parents, communities, and the educational sector in which the education of students occurs.

If there were an easy solution, to the ongoing conundrum that is the ways in which teachers manage unproductive student behaviour, it would have been applied. The answer, to how teachers create productive teaching and learning environments, lies in the end goal of a solution that would eradicate the reliance on punitive measures whereby all staff and students are able to participate in safe and supportive educational environments. The conundrum lies around the pressure placed on these stakeholders to meet the underlying continuation of society's belief that punitive measures will change behaviours. This truth is central to the success of long-term changes in educational institutions and as such is to be considered when discussing the limitations and the recommendations of the study.

The encourage this shift in thinking, as society changes, the stakeholders' values, and beliefs within it will continue to evolve. The discourse around productive teaching and learning environments, and classroom behaviour management, should never come to stand

still if it is to reflect both the needs of the community in which education is delivered alongside the needs of the community it serves. The complexity of classrooms, the multitude of stakeholders involved, and the nature of individual school communities requires serious consideration to be given when providing an answer to the research question. The following recommendations are presented with consideration of the complexities that classrooms and schools operate within, with acknowledgement that schools operate within different demographics and to encourage the reader to steer away from the inclination to assign responsibility or blame to any one group. A focus on driving positive change by disrupting existing patterns of learned behaviours in how teachers and schools view classroom behaviour management is the first step to understand the work of teachers and how they can best be supported to do the work of teaching. Each of the following sub-sections provide the recommendations and limitations of the study.

9.7.1 Understanding the knowledge and skills for creating productive learning environments

The first recommendation is to ensure schools consider current policy and how it aligns to effective teaching practice that guarantees teachers' gain access to the knowledge and skills required through appropriate professional learning programs. The findings indicated that such a program be designed using the Four Dimensions framework to inform teacher decision-making in teacher-student interactions. The Four Dimensions framework provided the development of knowledge and skills in teaching practices that guide decision-making to retain students in classrooms and increase the likelihood of on-task behaviours. The attainment of these knowledges and skills is most likely to come from professional learning programs.

This recommendation takes into consideration the limitation of this study in regard to the sample size from which Phase I of the study was based. When interpreting the results of this study attention is to be given to the small sample size that reflects a chosen demographic from within Queensland State Secondary schools. A small sample size was crucial to provide the rich text required in the aim of developing specific themes from within the concepts under investigation, for example the role that cognitive load and affect had on teacher decision-making evolved from the in-depth nature of the interviews.

Furthermore, consideration was given to this small sample size and compensated for in Phase II of the study. To balance the small sample size from Phase I, the study continued

into a second phase whereby 200 teachers were surveyed and concerns about the transference to other demographics was demonstrated. It is agreed that future research would benefit from an increased sample size to contribute to a greater understanding of the transferability and generalisability of findings to a wider demographic and possibly future direction in research.

Decision-making is a rapidly growing field of research. There was limited evidence of training or support for teachers to acquire the advanced knowledge, the skills, and understand the impact of decision-making on classroom environment. Furthermore, limited programs were to be found that engaged teachers in reflective practices around this aspect of their work. It is taken for granted that decision-making is a naturally acquired skill that improves in a linear fashion as individuals gain experience. This research found that what teachers state they have confidence in, does not always equate to demonstrated actions in practice. The evidence provided in chapter six and eight on the comparison between participants' confidence and their actual ability to use the Essential Skills of Classroom Management shows otherwise.

The structure and complexity of teacher education is a reality to be considered in any professional learning program, and as such, the need to provide all teachers with access to new information that moves beyond the punitive measures of control is essential. This study demonstrated the need to equip teachers with the knowledge and the skills in proactive teacher actions to increase the positive affect it brings teachers in their teaching practices.

The findings from this study demonstrated that after training in the Four Dimensions framework teachers increased the time and space they need for tasks and to interact with students through applying high frequency to the use of proactive teaching actions. This shift in teaching practice from a focus on classroom behaviour management to curriculum flow allowed teachers increased time to work with individual students who needed more time and space for behaviour and/or curriculum reasons. The recommendation to review policy in order to ensure a stance on guidelines that reduce the need for punitive and reactive teaching practices in classroom behaviour management simultaneously provides the foundation for policy to reflect and advocate for productive teaching and learning environments through a targeted balance in teacher-student interactions and the uninterrupted flow of teaching and learning.

9.7.2 Teacher versus systemic change

The second recommendation is to implement whole school approaches to develop sustainable positive school cultures. Through teacher development programs alongside leadership development programs, which enhance the reflective nature of knowledge and skill development in the way of interacting between all members of a school community.

The study clearly demonstrated that the professional learning program provided knowledge and skills to support teachers' decision-making, within the four walls of their classroom practice. The reality of teaching is that external pressures from the school and system impact the teaching practices within a teacher's classroom walls. In addition, and most concerning, was the finding from the study which revealed that teachers did not often seek external assistance or advice from fellow teachers. Teachers interviewed in this study demonstrated through their discourse that they took the responsibility of classroom behaviour management seriously on behalf of the Department of Education. Participants shared reflections that their earlier training, skills, and experience served them to make appropriate decisions without needing to change their way of thinking. However, it was evidenced through interviews that these habits added to the frustration when participants knew that what they were doing did not change student behaviours and viewed that their attempts to manage classroom disruptions reflected their abilities. Teachers who were caught in a cycle of habitual responding, using reactive and sometimes punitive management methods, found it difficult to change old habits, even when they thought it would benefit them. This cycle will continue to be exacerbated when leadership members and teams continue to build school-based procedures on punitive classroom behaviour management systems.

This view contributes to the issue of perpetuating cycles of prior learning, through professional development courses and on the job mentoring, that may not reflect best practice as society changes, and the educational systems within it give lip service to a change that is required but not practiced. A collaborative process of review or moderation through a new observation tool would help positively disrupt inequitable patterns of teacher behaviours in classroom management with a view to shaping and shifting the position to proactive teaching practices.

To achieve such a shift in thinking would require that beyond the teacher, that the school leadership teams were equipped with the same knowledge and skills, to support reform at a systemic level and not just a classroom level. In response to these findings, a limitation to this study includes the focus on the decision-making processes of teachers, with

recognition that shifts in teacher behaviours can occur in settings that continue to operate from a punitive based whole school system approach. This view permeates across staff and school and will hinder the responsiveness not only to whole school change, but also the way teachers view each other's practices and the position of collegial engagement.

Teachers benefit from colleagues and leaders in their school community who act as advocates for positive school climates. Such mentors support, and encourage, teachers using proactive methods in classroom behaviour management, and the period it takes for these skills to develop. Colleagues who criticise and condemn new methods often curtail the use of new skills. A strategy to create collegial engagement cycles and observational cycles built into teaching practice to promote and support the work of positive school needs would prove invaluable in helping shift opinions toward this change in teaching practice and its benefits to teachers and students alike.

The findings from this study suggested that as teachers gained experience, they drew on prior experiences, which may not be best practice. More so, these teacher actions do not necessarily reflect the knowledge and skills needed. As schools grow in complexity so too do the number of influences acting upon individuals in dynamic and constantly changing ways. This recommendation advocates for explicit education of teachers, principals and senior education officials in decision-making theories and reflective practice that would shift the thinking on the benefits of productive teaching and learning, over classroom behaviour management programs alone, at a systems level.

9.7.3 Providing education for all students.

Another recommendation of the study is to ensure that positive leaning environments are considered and applied in educational settings and not just given platitudes that are left without action. The benefits of positive teaching and learning environments will provide all students with access to quality teaching and teachers who are well equipped to do the work. This recommendation advocates that leadership teams set the standard through their own interactions with one another and staff, to model the behaviour expected across whole of school for positive school culture. In the literature review presented in chapter two, finding evidence on current practice and research based in Australian schools on effective classroom behaviour management practices that support positive learning in schools was a limitation. Throughout the study it was noted that the use of classroom behaviour management practices such as the ESCM, have supported teacher development since 1996, and little else has

emerged since then. The review by Hepburn et al. (2020) outlined this limitation in Australian and Queensland programs, and specifically referred to the reactive nature of the ESCM. In contrast, current international research supports a shift away from punitive and reactive teacher-student interactions towards proactive practices.

To arrive at a conversation around shifting schools from punitive based practices to positive school cultures, the discourse of positive school culture and positive education must move away from punitive measures. If it is the intent of a school to offer education for all students in productive learning environments, then the use of reactive teacher-student interactions will only sustain a punitive approach to achieving productive teaching and learning environment.

Furthermore, in consideration of the findings from chapter five, teachers will not reduce their cognitive load through continuing to respond to classroom disruption in the ways that have given them success in the past. Additionally, a teacher's negative affect will continue if the skills and teaching practices in classrooms do not match with the overall policy and procedures of a school system. Using the words from the themes in this research, there is no point teachers ensuring they have a *Green footprint* if members of the leadership teams are not modelling and embracing these constructs themselves. Positive school cultures are led from within the school and to be successful, must be embedded in the practices of all staff at all levels of a systematic structure. Based on this recommendation there would be a need to re-evaluate systemic drivers of policy around punitive responses used in achieving safe supportive learning environments. To change school culture, systems must endorse and develop their own internal dialogue and processes to support the teachers who are working hard to change their own and their students' ways of interacting.

9.7.4 Ways of working for all educators.

The final recommendation is to apply the Four Dimensions framework as a way of working with community members, colleagues, and students to increases positive inter and intra school communications and interactions. The Four Dimensions framework needs to consider the impact it could have on the way all stakeholders and staff interact with one another, not just the narrow field covered in this study of the interactions between teachers and students in classroom practice. The study demonstrated the benefits that positive interactions have to classroom environments. Based on the limitations found across the research within Australia, the potential to look at how the system views interactions, on a

school campus, is reflected in policy, and the current subtext within these school documents will maintain the use of punitive measures in schools.

9.8 Future Directions

There are many pathways to further expand this study, and the initial findings, this research has provided into teacher decision-making. Specifically, the influence cognitive load and teacher affect has on teacher-student interactions and the development and maintenance of productive teaching and learning environments. This study enters the field of decision-making at a time that highlights the need to bring qualitative depth to understanding the experiences of teachers in their classroom practices. Some of the opportunities for future research or directions include:

- A longitudinal study on changes to teacher's classroom environments and reflection on practice, after training in the Four Dimensions framework.
- The benefits of shifting the discourse from classroom behaviour management to productive teaching and learning environments.
- Recognising the need for classroom behaviour management programs, through studies into the impact of effective classroom behaviour management programs in schools who have shifted their narrative to focuses on productive teaching and learning environments.
- Larger-scale studies into the different way's schools build productive school cultures and, teaching and learning environments.
- Studies into the opposition to change from punitive to proactive classroom behaviour management practices to create productive learning environments by society and social structures that demand these coexist in a push for positive school cultures.
- Investment in autobiographical or phenomenological research designs to capture more first-person accounts from teachers, leadership teams and community members in the use of the Four Dimensions framework and their experiences in creating productive teaching and learning environments.
- Investment in comparative research projects in schools who have different pedagogical approaches, to compare differences to student outcomes and teacher wellbeing.

- Investigation into the impact of the Four Dimensions framework on teacher wellbeing.

If we are to address the disproportionate overuse of punitive or intrusive forms of redirection in classroom behaviour management, then additional consideration is needed in localised spaces where teachers operate, not just at the academic or theoretical level. Policies and legal boundaries, while important, are insufficient to enforce the cultural change required and these changes begin within classrooms and the schools themselves.

While the conversation continues to focus on classroom behaviour management before the knowledge and skills to achieve increased curriculum flow, teachers will persist to have a focus on this aspect of teaching too. The narrative in research needs to shift to find the importance of putting curriculum first through knowledge and skills to create productive teaching and learning environments in which classroom behaviour management is put in a position that is reduced to a portion of that discourse, not the discourse itself.

9.9 Chapter summary

This study provided new insight for principals, policy writers, academics, researchers, and educators themselves, into the lived experiences of teachers in their teaching practices. It has shed new light on the tensions and dilemmas teachers face in classroom behaviour management leading to further questions on the focus of classroom behaviour management over a narrative the promotes the flow of teaching and learning. The research led to adjustments in terminology across both the fields of education and psychology. This study found a need to focus on not only developing positive classroom environments, but rather a greater responsibility in the formation of teachers being equipped to create productive teaching and learning environments. Findings from this study suggest insufficient effort is directed towards assisting teachers to serve as positive disruptive forces in productive learning environments through underlying continuation of programs that focus teacher development on reactive and punitive classroom behaviour management skills. Productive teaching and learning environments come from the interactions between teachers and students and a discourse that has the flow in learning as the central premise.

Teacher decision-making is influenced by cognitive load and affect and teachers who know the *how* and the *why* associated with productive teaching and learning environments could reflect in practice and identify points of intervention in practice, shaped by policy, which can help address systemic alignment to effective methods before the need for

classroom behaviour management. Teacher decision-making is the fulcrum required to create productive teaching and learning environments.

Teachers are prepared to do the work required, including commitment to professional learning programs, but are disillusioned when programs do not provide changes to their teaching and learning practise. When teachers are given the skills to shift their focus from reactive to proactive measures, to reduce the need for classroom behaviour management through learning how to increase flow of curriculum delivery, curriculum conversations subjugated the classroom environment. Reactive methods of classroom management serve to interrupt an unproductive student behaviour with minimal impact on changing future episodes of the same or similar behaviours. Four Dimensions is a framework that provides the language and a simple three-step process in teacher decision-making (Expect: Reinforce: Reduce) to decrease cognitive load, increase positive affect, and establish productive teaching and learning environments for twenty-first century classrooms.

References

Abd Elhay, A., & Hershkovitz, A. (2019). Teachers' perceptions of out-of-class communication, teacher-student relationship, and classroom environment. *Education and Information Technologies, 24*(1), 385-406. doi:10.1007/s10639-018-9782-7

Acosta, J., Chinman, M., Ebener, P., Malone, P. S., Phillips, A., & Wilks, A. (2019). Evaluation of a whole-school change intervention: Findings from a two-year cluster-randomized trial of the restorative practices intervention. *Journal of Youth and Adolescence, 48*(5), 876-890. doi:10.1007/s10964-019-01013-2

Acton, R., & Glasgow, P. (2015). Teacher wellbeing in neoliberal contexts: A review of the literature. *Australian Journal of Teacher Education, 40*(8), 99-114. doi:10.14221/ajte.2015v40n8.6

Addimando, L. (2019). The effect of positive working conditions on work engagement and teaching classroom practices: A large cross-sectional study in Switzerland. *Frontiers in Psychology, 10,* 1-12. doi:10.3389/fpsyg.2019.02129

Adler, P. A., & Adler, P. (1994). Observational techniques. *International Journal of Qualitative Methods, 17*(1), 1-3. doi:10.1177/1609406918816766

Aguilar, K. (2020). *A map for creating a nurturing classroom environment for teachers.* (Masters). California State Polytechnic University, Pomona, CA.

Ainscow, M. (2018). Towards effective schools for all. In *Staff Training and Special Educational Needs* (pp. 177-188). London, United Kingdom: Routledge.

Akkaya, R., & Akyol, B. (2016). The relationship between teachers' locus of control and job satisfaction: A mixed method study. *International Online Journal of Educational Sciences, 8*(3), 71-82. doi:10.15345/iojes.2016.03.008

Alexandrou, A., & Swaffield, S. (2016). *Teacher leadership and professional development*. London, UK: Routledge.

Alezra, F. (2019). The image of the kindergarten teacher in the israeli media. *Yearbook of Pedagogy, 42*(1), 165-180. doi:10.2478/rp-2019-0011

Allen, J., Rowan, L., & Singh, P. (2018). Through growth to achievement: The potential impact on teacher education of the 2018 gonski review. *Asia-Pacific Journal of Teacher Education, 46*(4), 317-320. doi:10.1080/1359866X.2018.1507067

Allen, K. P., Hansford, L., Hayes, R., Allwood, M., Byford, S., Longdon, B., . . . Ford, T. (2019). Teachers' perceptions of the impact of the incredible years teacher classroom

management programme on their practice and on the social and emotional development of their pupils. *British Journal of Educational Psychology, 11,* 1-16. doi:10.1111/bjep.12306

Allen, M. (2017). *The Sage encyclopedia of communication research methods*. Thousand Oaks, CA: Sage Publications.

Altan, S., Lane, J. F., & Dottin, E. (2019). Using habits of mind, intelligent behaviors, and educational theories to create a conceptual framework for developing effective teaching dispositions. *Journal of Teacher Education, 70*(2), 169-183. doi:10.1177/0022487117736024

Alter, P. J., Borgmeier, C., Rosenberg, M., & Scott, T. M. (2010). Decision-making in secondary and tertiary interventions of school-wide systems of positive behavior support. *Education & Treatment of Children, 33*(4), 513 -546. doi:10.1353/etc.2010.0003

Álvarez, M. E., Álvarez, H. M., Castro Pañeda, M. P., Campo Mon, M. Á., & González, G.-M. C. (2016). Teachers' perception of disruptive behaviour in the classrooms. *Psicothema, 28*(2), 174-180. doi:10.1080/01443410802206700

Amit, K. (2013). A study of teacher effectiveness inrelation to attitude towards teaching job satisfaction and organisational climate. (Masters). Dayanand Woman Training College, Kanpur, India.

Andrade, E. B., and D. Ariely. 2009. "The Enduring Impact of Transient Emotions on Decision Making." *Organizational Behavior and Human Decision Processes* 109 (1): 1–8. doi:10.1016/j.obhdp.2009.02.003.

Angotti, N., & Kaler, A. (2013). The more you learn the less you know? Interpretive ambiguity across three modes of qualitative data. *Demogr Res, 28*(33), 951-980. doi:10.4054/DemRes.2013.28.33

Appelt, K. C., Milch, K. F., Handgraaf, M. J., & Weber, E. U. (2011). The decision making individual differences inventory and guidelines for the study of individual differences in judgment and decision-making research. *Judgment and Decision Making, 6*(3).

Archer, A. L., & Hughes, C. A. (2010). *Explicit instruction: Teaching vocabulary and concepts*. New York: Guilford Press.

Archer, A. L., & Hughes, C. A. (2011). *Explicit instruction: Effective and efficient teaching*. New York, NY: Guilford Press.

Arias-Bolzmann, L., Agurto, W. F., Chavez, A. M., Pantoja, R., & Pinto, A. (2018). Decisions in hierarchical production planning: Goals, heuristics and bias. *Revista Espacios, 39*(14), 1-11. doi:10.1287/opre.30.2.232

Armstrong, D. (2018). Addressing the wicked problem of behaviour in schools. *International Journal of Inclusive Education, 22*(9), 997-1013. doi:10.1080/13603116.2019.1597183.

Armstrong, F. (2019). Social constructivism and action research: Transforming teaching and learning through collaborative practice. In *Action Research for Inclusive Education* (pp. 5-16). London, UK: Routledge.

Augustine, C. H., Engberg, J., Grimm, G. E., Lee, E., Wang, E. L., Christianson, K., & Joseph, A. A. (2018). *Can restorative practices improve school climate and curb suspensions*. Santa Monica, California: The RAND Corporation

Australian Curriculum Assessment Reporting Authority. (2019). *National report on schooling in Australia 2017*. Sydney, AU: Australian Governement

Australian Government. (1992). *Disability discrimination act*. Canberra, Australia: Australian Government

Australian Institute for Teaching and School Leadership. (2010). *Australian professional standards for teachers*. Melbourne, Victoria: Education Council Services

Australian Institute for Teaching and School Leadership. (2018). *Australian institute for teaching and school leadership*. Melbourne: Education Council Services

Australian Institute of Teaching and School Leadership. (2016). *What do we know about early career teacher attrition rates in Australia?* Melbourne, Victoria: Department of Education

Avalos, B. (2011). Teacher professional development in teaching and teacher education over ten years. *Teaching and Teacher Education, 27*(1), 10-20. doi:10.1016/j.tate.2010.08.007

Avidov-Ungar, O. (2016). A model of professional development: Teachers' perceptions of their professional development. *Teachers and Teaching, 22*(6), 653-669. doi:10.1080/13540602.2016.1158955

Avni-Babad, D., & Ritov, I. (2003). Routine and the perception of time. *Journal of Experimental Psychology: General, 132*(4), 543-550. doi:10.1037/0096-3445.132

Aydin, D. G., & Karabay, Ş. O. (2020). Improvement of classroom management skills of teachers leads to creating positive classroom climate. *International Journal of Educational Research Review, 5*(1), 10-25. doi:10.24331/ijere.646832

Baker, P. H. (2005). Managing student behavior: How ready are teachers to meet the challenge? *American Secondary Education, 33*, 51-64. doi:10.1002/(SICI)1098-237X

Balleine, B. W. (2019). Hierarchical action control: Adaptive collaboration between actions and habits. *Frontiers in Psychology, 10*(3), 1-13. doi:10.3389/fpsyg.2019.02735

Balsemão Oss, D. I. (2018). The relevance of teachers' practical knowledge in the development of teacher education programs. *Profile Issues in Teachers Professional Development, 20*(1), 167-178. doi:10.15446/profile.v20n1.62327

Baltag, A., Boddy, R., & Smets, S. (2018). Group knowledge in interrogative epistemology. In *Jaakko Hintikka on Knowledge and Game-Theoretical Semantics* (pp. 131-164). Amsterdam: Springer.

Banks, T. (2014). Creating positive learning environments: Antecedent strategies for managing the classroom environment & student behavior. *Creative Education, 5*(7), 519-524. doi:10.4236/ce.2014.57061

Barnard, C. I. (1968). *The functions of the executive* (Vol. 11). Cambridge, Massachusetts: Harvard University Press.

Barber, J., & Sackville-Ford, M. (2020). Behaviour management: An essential guide for student and newly qualified teachers. Milton, Oxfordshire: Routledge.

Barr, J. J. (2016). *Developing a positive classroom climate. Idea paper*. Manhattan, KS: IDEA Center, Inc.

Batta, E., & Stephens, C. (2019). *Heuristics as decision-making habits of autonomous sensorimotor agents.* Paper presented at the 2018 Conference on Artificial Life: A Hybrid of the European Conference on Artificial Life (ECAL) and the International Conference on the Synthesis and Simulation of Living Systems, Tokyo, Japan.

Beach, L. R. (1993). Making the right decision: Organizational culture, vision, and planning. New Jersey: Prentice Hall.

Beaman, R., Wheldall, K., & Kemp, C. (2007). Recent research on troublesome classroom behaviour: A review. *Australasian Journal of Special Education, 31*(1), 45-60. doi:10.1080/10300110701189014

Beamish, W., & Bryer, F. (2019). Emergence of behavioural support in the USA. In *Behavioural Support for Students with Special Educational Needs* (pp. 27-47). Manhattan, NY: Springer.

Becker, E. S., Keller, M. M., Goetz, T., Frenzel, A. C., & Taxer, J. L. (2015). Antecedents of teachers' emotions in the classroom: An intraindividual approach. *Frontiers in Psychology, 6*, 635-647. doi:10.3389/fpsyg.2015.00635

Bell, A., & Thomson, K. (2018). Supporting peer observation of teaching: Collegiality, conversations, and autonomy. *Innovations in Education and Teaching International, 55*(3), 276-284. doi:10.1080/14703297.2015.1025808

Bentea, C.-C. (2015). Relationships between personality characteristics and attitude towards work in school teachers. *Procedia-Social and Behavioral Sciences, 180*, 1562-1568. doi:10.1016/j.sbspro.2015.02.307

Bento, F. (2016). Complexity and change in Waldorf schools: A narrative study into perceptions of decision-making processes. *Research on Steiner Education, 6*(2), 78-94. doi:10.1016/j.jrp.2010.05.009

Bera, K., Shukla, A., & Bapi, R. S. (2021). Motor chunking in internally guided sequencing. *Brain Sciences, 11*(3), 292-302. doi:10.3390/brainsci11030292

Berg, B. L., Lune, H., & Lune, H. (2004). *Qualitative research methods for the social sciences* (Vol. 5). Boston, MA: Pearson.

Berger, R. (2015). Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative Research, 15*(2), 219-234. doi:10.1177/1468794112468475

Bernard, H. R., Wutich, A., & Ryan, G. W. (2016). *Analyzing qualitative data: Systematic approaches*. Thousand Oaks, CA: Sage Publications.

Betsch, T. (2014). *The routines of decision making*. Boston, Massachusetts: Psychology Press.

Betsch, T., Haberstroh, S., Glöckner, A., Haar, T., & Fiedler, K. (2001). The effects of routine strength on adaptation and information search in recurrent decision making. *Organizational Behavior and Human Decision Processes, 84*(1), 23-53. doi:10.1006/obhd.2000.2916

Betsch, T., Lehmann, A., Jekel, M., Lindow, S., & Glöckner, A. (2018). Children's application of decision strategies in a compensatory environment. *Judgment and Decision Making, 13*(6), 514-528. doi:10.1037/a0014616.

Betsch, T., Lehmann, A., Lindow, S., Lang, A., & Schoemann, M. (2016). Lost in search: Mal-adaptation to probabilistic decision environments in children and adults. *Developmental Psychology, 52*(2), 311-324. doi:10.3389/fpsyg.2018.00191

Betsch, T., Lindow, S., Engel, C., Ulshöfer, C., & Kleber, J. (2015). Has the world changed? My neighbor might know: Effects of social context on routine deviation. *Journal of Behavioral Decision Making, 28*(1), 50-66. doi:10.2139/ssrn.1920296

Betsch, T., Plessner, H., Schwieren, C., & Gütig, R. (2001). I like it but I don't know why: A value-account approach to implicit attitude formation. *Personality and Social Psychology Bulletin, 27*(2), 242-253. doi:10.1177/0146167201272009

Beuchert, L., Humlum, M. K., Nielsen, H. S., & Smith, N. (2018). The short-term effects of school consolidation on student achievement: Evidence of disruption? *Economics of Education Review, 65*, 31-47. doi:10.2139/ssrn.2626712

Bicchieri, C., & McNally, P. (2018). Shrieking sirens: Schemata, scripts, and social norms. How change occurs. *Social Philosophy and Policy, 35*(1), 23-53. doi:10.1596/978-1-4648-0342-0.

Binder, B. J. T., T. A. Johansen, and L. Imsland. 2019. "Improved Predictions from Measured Disturbances in Linear Model Predictive Control." *Journal of Process Control* 75: 86–106. doi:10.1016/j.jprocont.2019.01.007.

Bitsadze, M., & Japaridze, M. (2016). Locus of control in Georgian teachers and its relation to teacher burnout. *Problems of Management in the 21st Century, 11*(1), 8-15. doi:10.1111/j.2044-8279

Blackley, C., Redmond, P., & Peel, K. (2021). Teacher decision-making in the classroom: The influence of cognitive load and teacher affect. *Journal of Education for Teaching*, 1-14. Advanced online publication. doi:10.1080/02607476.2021.1902748

Blanchette, I., & Richards, A. (2010). The influence of affect on higher level cognition: A review of research on interpretation, judgement, decision making and reasoning. *Cognition and Emotion, 24*(4), 561-595. doi:10.1080/02699930903132496

Blatchford, P., & Russell, A. (2019). Class size, grouping practices and classroom management. *International Journal of Educational Research, 96*, 154-163. doi:10.1016/j.ijer.2018.09.004

Bloomberg, L. D., & Volpe, M. (2018). *Completing your qualitative dissertation: A road map from beginning to end*. Thousand Oaks, CA: Sage Publications.

Boekaerts, M. (2017). Cognitive load and self-regulation: Attempts to build a bridge. *Learning and Instruction, 51*, 90-97. doi:10.1016/j.learninstruc.2017.07.001

Boivie, I. (2017). Revisiting the three Rs of teacher retirement systems: Recruitment, retention, and retirement. *Issue Brief. Washington DC: National Institute on Retirement Security*.

Borko, H., Livingston, C., & Shavelson, R. J. (1990). Teachers' thinking about instruction. *Remedial and Special Education, 11*(6), 40-49. doi:10.1.1.842.3614

Borman, G. D., & Dowling, N. M. (2017). Teacher attrition and retention: A meta-analytic and narrative review of the research. *Review of Educational Research, 78*(3), 367-409. doi:10.3102/0034654308321455

Bowditch, C. (1993). Getting rid of troublemakers: High school disciplinary procedures and the production of dropouts. *Social Problems, 40*(4), 493-509. doi:10.1525/sp.1993.40.4.03x0094p

Bower, J. M., & Carroll, A. (2017). Capturing real-time emotional states and triggers for teachers through the teacher wellbeing web-based application. *Teaching and Teacher Education, 65*, 183-191. doi:10.1016/j.tate.2017.03.015

Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2008). *Who leaves? Teacher attrition and student achievement*. Cambridge, UK: National Bureau of Economic Research

Bozkuş, K. (2021). A Systematic Review of Studies on Classroom Management from 1980 to 2019. *International Electronic Journal of Elementary Education, 13*(4), 433-441. doi:10.26822/iejee.2021.202

Bradshaw, C., Waasdorp, T. E., Debnam, K. J., & Johnson, S. L. (2014). Measuring school climate in high schools: A focus on safety, engagement, and the environment. *Journal of School Health, 84*(9), 593-604. doi:10.1111/josh.12186

Bradshaw, C. P., Mitchell, M. M., & Leaf, P. J. (2010). Examining the effects of schoolwide positive behavioral interventions and supports on student outcomes results from a randomized controlled effectiveness trial in elementary schools. *Journal of Positive Behavior Interventions, 12*(3), 133-148. doi:10.1177/1098300709334798

Braun, V., Clarke, V., & Gray, D. (2017). Collecting qualitative data: A practical guide to textual, media and virtual techniques. Chicago: Cambridge University Press.

Brinkmann, S., & Kvale, S. (2015). *Interviews: Learning the craft of qualitative research interviewing* (Vol. 3). Thousand Oaks, CA: Sage Publications.

Brion, C. (2020). *Learning transfer: The missing linkage to effective professional development.* (Masters). Educational Leadership Faculty Publications, University of Dayton, Ohio.

Brophy, J. (2006). *History of research on classroom management*. Mahwah, NJ: Lawrence Erlbaum Associates.

Broskey, M. (2017). Teachers' personal and professional influences related to school-wide positive behavior supports (SWPBS). Wilkes-Barre, Pennsylvania: Wilkes University.

Brouwers, A., & Tomic, W. (1999). Teacher burnout, perceived self-efficacy in classroom management, and student disruptive behaviour in secondary education. *Curriculum and Teaching, 14*(2), 7-26. doi:10.7459/ct/14.2.02

Brouwers, A., & Tomic, W. (2000). A longitudinal study of teacher burnout and perceived self-efficacy in classroom management. *Teaching and Teacher Education, 16*(2), 239-253. doi:10.1016/S0742-051X(99)00057-8

Brown, C., & Militello, M. (2016). Principal's perceptions of effective professional development in schools. *Journal of Educational Administration, 54*(6), 703-726. doi:10.7753/IJSEA0609.1002

Brunzell, T., Stokes, H., & Waters, L. (2019). Shifting teacher practice in trauma-affected classrooms: Practice pedagogy strategies within a trauma-informed positive education model. *School Mental Health, 11*(3), 600-614. doi:10.1007/s12310-018-09308-8

Bryan, N. (2017). White teachers' role in sustaining the school-to-prison pipeline: Recommendations for teacher education. *The Urban Review, 49*(2), 326-345. doi:10.1007/s11256-017-0403-3

Bryer, F., & Beamish, W. (2019). Scaling up behavioural support in the USA. In *Behavioural Support for Students with Special Educational Needs* (pp. 49-65). Manhatten, NY: Springer.

Buchanan, L., and A. O Connell. 2006. "A Brief History of Decision Making." *Harvard Business Review* 84 (1): 1–16.

Bundy, J. M. (2006). Examination of decision-making factors in student discipline by idaho secondary school principals. (PhD). University of Idaho, Moscow.

Burden, P. (2020). Classroom management: Creating a successful k-12 learning community: John Wiley & Sons.

Burke, C. (1992). Devolution of responsibility to Queensland schools: Clarifying the rhetoric, critiquing the reality. *Journal of Educational Administration, 30*(4), 7-24. doi:10.1108/09578239210020471

Burnett, B., & Lampert, J. (2016). Re-thinking teacher quality in high-poverty schools in Australia. In *Education, equity, economy: Crafting a new intersection* (pp. 51-72). Manhatten, NY: Springer.

Burns, T., & Roszkowska, E. (2016). Rational choice theory: Toward a psychological, social, and material contextualization of human choice behavior. *Theoretical Economics Letters, 6*(2), 195-207. doi:10.4236/tel.2016.62022

Button, G., & Lee, J. R. (1987). Transcript symbols: Talk and social interaction. *Multilingual Matters, 4*(1), 9-17. doi:10.1177/1476718x09345516

Callender, A. A., Franco-Watkins, A. M., & Roberts, A. S. (2016). Improving metacognition in the classroom through instruction, training, and feedback. *Metacognition and Learning, 11*(2), 215-235. doi:10.1007/s11409-015-9142-6

Camburn, E. M., & Han, S. W. (2015). Infrastructure for teacher reflection and instructional change: An exploratory study. *Journal of Educational Change, 16*(4), 511-533. doi:10.1007/s10833-015-9252-6

Carswell, M. A., G. Fabre, S.-J. Howard, and J. Williams. 2017. *Think, Collaborate, Decide, Teach: A Guidefor Success.* Fort Lauderdale, FL: Nova Southeastern University.

Carvalho, P. (2015). Youth unemployment in Australia. *The Australian Economic Review, 4*(24), 1-48. doi:10.1111/j.1467-8462.1983.tb00267.x

Carver-Thomas, D., & Darling-Hammond, L. (2017). *Teacher turnover: Why it matters and what we can do about it*. Washington, DC: Learning Policy Institute

Carver-Thomas, D., & Darling-Hammond, L. (2019). The trouble with teacher turnover: How teacher attrition affects students and schools. *Education Policy Analysis Archives, 27*, 1-32. doi:10.14507/epaa.27.3699

Casey, K., & Worthen, M. (2019). Developing a modern teacher workforce: Federal policy recommendations for professional learning and supporting future-focused, competency-based education systems. Issue brief. Vienna, VA: Aurora Institute

Castelló, A., Gotzens, C., del Mar Badia, M., & Genovard, C. (2010). Beliefs and attitudes regarding classroom management. *European Journal of Education and Psychology, 3*(1), 117-128. doi:10.1016/j.sbspro.2015.04.098

Castleberry, A., & Nolen, A. (2018). Thematic analysis of qualitative research data: Is it as easy as it sounds? *Currents in Pharmacy Teaching and Learning, 10*(6), 807-815. doi:10.1016/j.cptl.2018.03.019

Ceceli, A. O., & Tricomi, E. (2018). Habits and goals: A motivational perspective on action control. *Current Opinion in Behavioral Sciences, 20*, 110-116. doi:10.1016/j.cobeha.2017.12.005

Ceschi, A., Demerouti, E., Sartori, R., & Weller, J. (2017). Decision-making processes in the workplace: How exhaustion, lack of resources and job demands impair them and affect performance. *Frontiers in Psychology, 8*, 1-14. doi:10.3389/fpsyg.2017.00313

Chaplain, R. (2016). Teaching without disruption in the primary school: A practical approach to managing pupil behaviour. London, United Kingdom: Routledge.

Check, J., & Schutt, R. K. (2012). Survey research. *Research Methods in Education, 5*(1), 159-185. doi:10.17996/anc.19-00102

Chen, J. (2016). Understanding teacher emotions: The development of a teacher emotion inventory. *Teaching and Teacher Education, 55*, 68-77. doi:10.1016/j.tate.2016.01.001

Cheng, E. C. (2015). Knowledge sharing for creating school intellectual capital. *Procedia-Social and Behavioral Sciences, 191*, 1455-1459. doi:10.1016/j.sbspro.2015.04.307

Chilcott, T., & Shanahan, M. (2013, April 23). Queensland school suspensions on the rise in crack down on student behaviour *The Courier Mail*, pp. 4-5.

Christie, G., & Christie, C. (1999). *Reducing and preventing violence in schools.* Paper presented at the Children and Crime: Victims and Offenders, Brisbane, Australia.

Claessens, L., van Tartwijk, J., Pennings, H., van der Want, A., Verloop, N., den Brok, P., & Wubbels, T. (2016). Beginning and experienced secondary school teachers' self-and student schema in positive and problematic teacher–student relationships. *Teaching and Teacher Education, 55*, 88-99. doi:10.1016/j.tate.2015.12.006

Cloonan, A. (2019). Collaborative teacher research: Integrating professional learning and university study. *The Australian Educational Researcher, 46*(3), 385-403. doi: 10.1007/s13384-018-0290-y

Clunies-Ross, P., Little, E., & Kienhuis, M. (2008). Self-reported and actual use of proactive and reactive classroom management strategies and their relationship with teacher stress and student behaviour. *Educational Psychology*, *28*(6), 693-710. doi:10.1080/01443410802206700

Coba, L., Zanker, M., Rook, L., & Symeonidis, P. (2018). *Decision making of maximizers and satisficers based on collaborative explanations.* Paper presented at the ACM Woodstock conference, New York, NY. doi. 10.1145/3301275.3302304

Coker, J., Kiefer, S., & Robinson, R. (2019). Teacher motivation profiles: Implications for teacher beliefs and perceptions of the classroom environment. *Advances in Global Education and Research, 3*, 267-278. doi:10.5038/9781732127548

Coles, E. K., Owens, J. S., Serrano, V. J., Slavec, J., & Evans, S. W. (2015). From consultation to student outcomes: The role of teacher knowledge, skills, and beliefs in increasing integrity in classroom management strategies. *School Mental Health, 7*(1), 34-48. doi:10.1007/s12310-015-9143-2

Collie, R. J., & Perry, N. E. (2019). Cultivating teacher thriving through social–emotional competence and its development. *The Australian Educational Researcher, 46*(4), 699-714. doi:10.1007/s13384-019-00342-2

Collins, C. S., & Stockton, C. M. (2018). The central role of theory in qualitative research. *International Journal of Qualitative Methods, 17*(1), 1-75. doi:0.1177/1609406918797475

Colvin, G., Ainge, D., & Nelson, R. (1997). How to defuse defiance, threats, challenges, confrontations. *Teaching Exceptional Children, 29*(6), 47-51. doi:10.1177/004005999702900611

Connell, R. W., & Connell, R. (1993). *Schools & social justice*. Toronto, ON: James Lorimer & Company.

Cooksey, R. W. (1996). The methodology of social judgement theory. *Thinking & Reasoning, 2*(2-3), 141-174. doi:10.1080/135467896394483

Cooksey, R. W. (1999). Adult judgment and decision making in J. A. Athanasou. In *Adult Educational Psychology* Sydney, New South Wales: Social Science Press.

Cooksey, R. W. (2000). Mapping the texture of managerial decision making: A complex dynamic decision perspective. *Emergence, 2*(2), 102-122. doi:10.1207/S15327000EM0202_06

Cooper, R., Fitzgerald, A., Loughran, J., Phillips, M., & Smith, K. (2021). Understanding teachers' professional learning needs: what does it mean to teachers and how can it be supported? *Teachers and Teaching,* Advanced online publication. doi:10.1080/13540602.2021.1900810

Corcoran, T. (2003). Construction dialogic relationships: School legislation and the principal's gamble. *Australia & New Zealand Journal of Law & Education, 8*(1), 97-109. doi:10.1348/014466608X349513

Cordingley, P., Higgins, S., Greany, T., Buckler, N., Coles-Jordan, D., Crisp, B., . . . Coe, R. (2015). *Developing great teaching: Lessons from the international reviews into effective professional development* (Trust, T. D. Ed.). London, United Kingdom: Teacher Development Trust.

Coward, M. (2021). Encouraging reflection in professional learning. *Nursing Management, 28*(3), 38-41. doi:10.7748/nm.2018.e1752.

Cranston, N. C. (2000). Teachers as leaders: A critical agenda for the new millennium. *Asia-Pacific Journal of Teacher Education, 28*(2), 123-131. doi:10.1080/713650688

Creswell, J. W. (2013). Research design: Qualitative, quantitative, and mixed methods approaches.Thousand Oaks, CA: Sage Publications.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative and mixed methods approaches* (4th Ed.). Thousand Oaks, CA: Sage Publications.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*.Thousand Oaks, CA: Sage Publications.

Csikszentmihalyi, M. (1975). *Beyond Boredom and Anxiety: Experiencing Flow in Work and Play*. San Francisco, CA: Jossey-Bass.

Csikszentmihalyi, M. (2014a). *Applications of flow in human development and education*. Clermont, CA: Springer.

Csikszentmihalyi, M. (2014b). Learning,"flow," and happiness. In *Applications of flow in human development and education* (pp. 153-172). New York, NY: Springer.

Csikszentmihalyi, M., Abuhamdeh, S., & Nakamura, J. (2021). *Flow*. Karlavägen, Stockholm: Natur & Kultur Allmänlitteratur.

Csikszentmihalyi, M., & Csikzentmihaly, M. (1990). *Flow: The psychology of optimal experience* (Vol. 1990). New York, NY: Harper & Row.

Cummings, C. B. (2000). *Winning strategies for classroom management*. Alexandria, Egypt: Association for Supervision and Curriculum Development.

Curry, J. R., Webb, A. W., & Latham, S. J. (2016). A content analysis of images of novice teacher induction: First-semester themes. *Journal of Educational Research and Practice, 6*(1), 43-65. doi:10.5590/JERAP.2016.06.1.04

Dar-Nimrod, I., Rawn, C. D., Lehman, D. R., & Schwartz, B. (2009). The maximization paradox: The costs of seeking alternatives. *Personality and Individual Differences, 46*(5-6), 631-635. doi:10.1016/j.paid.2009.01.007

Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Palo Alto, CA: Learning Policy Institute.

De Nobile, J., El Baba, M., & London, T. (2016). School leadership practices that promote effective whole school behaviour management: A study of Australian primary schools. *School Leadership & Management, 36*(4), 419-434. doi:10.1080/13632434.2016.1247041

Deakin, J., & Kupchik, A. (2018). Managing behaviour: From exclusion to restorative practices. In *The Palgrave international handbook of school discipline, surveillance, and social control* (pp. 511-527). Palgrave: Springer.

Debnam, K. J., Johnson, S. L., Waasdorp, T. E., & Bradshaw, C. (2014). Equity, connection, and engagement in the school context to promote positive youth development. *Journal of Research on Adolescence, 24*(3), 447-459. doi:10.1111/jora.12083

Deck, C., & Jahedi, S. (2015). The effect of cognitive load on economic decision making: A survey and new experiments. *European Economic Review, 78*, 97-119. doi:10.1016/j.euroecorev.2015.05.004

Demirdag, S. (2015). Classroom management and students self-esteem: Creating positive classrooms. *Educational Research and Reviews, 10*(2), 191-197. doi:10.5897/ERR2014.2000

den Brok, P., Wubbels, T., & Van Tartwijk, J. (2017). Exploring beginning teachers' attrition in the netherlands. *Teachers and Teaching, 23*(8), 881-895. doi:10.1080/13540602.2017.1360859

Department of Education and the Arts. (2005). *Disability standards for education 2005*. Canberra, Australia: Australian Government

Department of Education and the Arts. (2006). *The essential skills core learning component*. Brisbane, Australia: Department of Education and the Arts Queensland

Department of Education and the Arts Queensland. (1996). *Management focused language: 10 classic micro-skills. Behaviour management skill training handbook*. Queensland, Australia: Department of Education and the Arts

Department of Education and Training. (2015). *Safe, supportive and disciplined school environment*. Brisbane: Department of Education and the Arts Queensland

Department of Education Training and the Arts. (2015a). *Advanced classroom profiling: Training booklet*. Queensland, Australia: Department of Education Training and the Arts

Department of Education Training and the Arts. (2015b). *Classroom Profile*. Queensland, Australia: Department of Education, Training and the Arts

Department of Education Training and the Arts. (2015c). *Module B: Discussion of the meaning of criteria*. Queensland, Australia: Department of Education, Training and the Arts

Desimone, L. M., & Pak, K. (2017). Instructional coaching as high-quality professional development. *Theory into Practice, 56*(1), 3-12. doi:10.1080/00405841.2016.1241947

Diaz-Leon, E. 2015. "What Is Social Construction?" *European Journal of Philosophy* 23 (4): 1137–1152. doi:10.1111/ejop.12033.

Dimmock, C., & Wildy, H. (1995). Conceptualizing curriculum management in an effective secondary school: A Western Australian case study. *The Curriculum Journal, 6*(3), 297-323. doi:10.1080/0958517950060303

Dinham, S., & Scott, C. (2000). Teachers' work and the growing influence of societal expectations and pressures. *Australian Journal of Education, 57*(2), 91-106. doi:10.1177/0004944113485840

Dix, P. (2017). When the adults change, everything changes: Seismic shifts in school behaviour. La Vergne, Tennessee: Crown House Publishing.

Djulbegovic, B., & Elqayam, S. (2017). Many faces of rationality: Implications of the great rationality debate for clinical decision-making. *Journal of Evaluation in Clinical Practice, 23*(5), 915-922. doi:10.1111/jep.12788

Dorgu, T. E. (2016). Different teaching methods: A panacea for effective curriculum implementation in the classroom. *International Journal of Secondary Education, 3*(6), 77-87. doi:10.11648/j.ijsedu.s.2015030601.13

Doyle, W. (1989). Classroom management techniques. *Strategies to reduce student misbehavior*, 12 (2), 11-31. doi:10.2304/eerj.2013.12.3.389

Drabman, R. S., & Lahey, B. B. (1974). Feedback in classroom behavior modification: Effects on the target and her classmates. *Journal of Applied Behavior Analysis, 7*(4), 591-598. doi:10.1901/jaba.1974.7-591

Duckworth, A. L., Quinn, P. D., & Seligman, M. E. (2009). Positive predictors of teacher effectiveness. *The Journal of Positive Psychology, 4*(6), 540-547. doi:10.1080/17439760903157232

Duncan, K. D., & Shohamy, D. (2016). Memory states influence value-based decisions. *Journal of Experimental Psychology, 145*(11), 1420-1426. doi:10.1037/xge0000231

Dursley, L., & Betts, L. (2014). Exploring children's perceptions of the perceived seriousness of disruptive classroom behaviours. *Educational Psychology, 35*(4), 416-429. doi:10.1080/14681366.2017.1314318

Dworkin, S. L. (2012). Sample size policy for qualitative studies using in-depth interviews. *Archives of Sexual Behavior, 41*(6), 1319-1320. doi:10.1007/s10508-012-0016-6

Easthope, C., & Easthope, G. (2000). Intensification, extension and complexity of teachers' workload. *British Journal of Sociology of Education, 21*(1), 43-58. doi:10.1080/01425690095153

Edhlund, B., & McDougall, A. (2019). *Nvivo 12 Essentials*. New York, NY: Lulu.

Education, C. (2021). Effective classroom observation. In Education, C. (Ed.), *Cambridge Education Limited* (pp. 4). Cambridge, London: Cambridge Education Limited.

Edwards, W. (1954). The theory of decision making. *Psychological Bulletin, 51*(4), 380. doi:10.1037/h0053870

Egeberg, H., McConney, A., & Price, A. (2016). Classroom management and national professional standards for teachers: A review of the literature on theory and practice. *Australian Journal of Teacher Education, 41*(7), 1-18. doi:10.14221/ajte.2016v41n7.1

Eggleston, J. (2018). Teacher decision-making in the classroom: A collection of papers. Milton Park, Oxfordshire: Routledge.

Eickholt, M. S., & Goodboy, A. K. (2017). Investment model predictions of workplace ostracism on k–12 teachers' commitment to their schools and the profession of teaching. *Journal of Workplace Behavioral Health, 32*(2), 139-157. doi:10.1080/15555240.2017.1332483

Eisenman, G., Edwards, S., & Cushman, C. A. (2015). Bringing reality to classroom management in teacher education. *Professional Educator, 39*(1), 1-12. doi:10.1002/pits.21819

Ell, F., Simpson, A., Mayer, D., Davies, L. M., Clinton, J., & Dawson, G. (2019). Conceptualising the impact of initial teacher education. *The Australian Educational Researcher, 46*(1), 177-200. doi:10.1007/s13384-018-0294-7

Ellis, M. (2016). Metalanguage as a component of the communicative classroom. *Accents Asia, 8*(2), 143-153. doi:10.1080/09658410208667042

Elton, B. R. (1989). *Discipline in schools: Report of the committee of enquiry chaired by Lord Elton*. Richmond, United Kingdom: Her Majesty's Stationery Office.

Emmer, E. T., & Stough, L. M. (2001). Classroom management: A critical part of educational psychology, with implications for teacher education. *Educational Psychologist, 36*(2), 103-112. doi:10.1207/S15326985EP3602_5

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics, 5*(1), 1-4. doi:10.6224/JN.61.3.105.

Evertson, C. M. (1985). Training teachers in classroom management: An experimental study in secondary school classrooms. *The Journal of Educational Research, 79*(1), 51-58. doi:10.1080/00220671.1985.10885648

Fahmie, T. A., & Luczynski, K. C. (2019). Functional behavior assessment in context. *The Encyclopedia of Child and Adolescent Development, 7*(1), 1-12. doi:10.1002/9781119171492.wecad077

Farrell, T. S., and J. Ives. 2015. "Exploring Teacher Beliefs and Classroom Practices through Reflective Practice: A Case Study." *Language Teaching Research* 19 (5): 594–610. doi:10.1177/1362168814541722.

Fernandes, V. (2016). Reframing continuous school improvement in Australian schools. In *Handbook of research on effective communication, leadership, and conflict resolution* (pp. 98-124). Hershey, Pennsylvania: IGI Global.

Fernández, E., & López, G. R. (2017). When parents behave badly: A critical policy analysis of parental involvement in schools. In *Critical Approaches to Education Policy Analysis* (pp. 111-129). New York, NY: Springer.

Fields, B. A. (2000). School discipline: Is there a crisis in our schools? *Australian Journal of Social Issues, 35*(1), 73-86. doi:10.1002/j.1839-4655.2000.tb01304

Finch, D., Peacock, M., Lazdowski, D., & Hwang, M. (2015). Managing emotions: A case study exploring the relationship between experiential learning, emotions, and student performance. *The International Journal of Management Education, 13*(1), 23-36. doi:10.1016/j.ijme.2014.12.001

Findley, B., & Varble, D. (2006). Creating a conducive classroom environment: Classroom management is the key. *College Teaching Methods & Styles Journal (CTMS), 2*(3), 1-6. doi:10.19030/ctms.v2i1.5252

Finlay, L. (2002). Negotiating the swamp: The opportunity and challenge of reflexivity in research practice. *Qualitative Research, 2*(2), 209-230. doi:10.1177/146879410200200205

Finn, J. D., Folger, J., & Cox, D. (1991). Measuring participation among elementary grade students. *Educational and Psychological Measurement, 51*(2), 393-402. doi:10.1177/0013164491512013

Fishburn, P. C. (1984). SSB utility theory and decision-making under uncertainty. *Mathematical Social Sciences, 8*(3), 253-285. doi:10.1016/0165-4896(84)90100-8

Fisher, C. W., Chengalur-Smith, I., & Ballou, D. P. (2003). The impact of experience and time on the use of data quality information in decision making. *Information Systems Research, 14*(2), 170-188.

Fisher, D., Frey, N., Smith, D., & Hattie, J. (2021). *Leading the Rebound: 20+ Must-Dos to Restart Teaching and Learning*. Thousand Oaks, CA: Corwin Press.

Fisher, W. D. 1962. “Estimation in the Linear Decision Model.” *International Economic Review* 3 (1): 1–29. doi:10.2307/2525296.

Fiske, S. T., & Taylor, S. E. (1991). Attribution theory. *Social Cognition, 3,* 22-41. doi:10.3200/SOCP.149.1.131-136

Flick, U. (2004). Triangulation in qualitative research. *A companion to qualitative research*, 178-183. doi:10.1177/1468794119830077

Flick, U. (2018a). *Designing qualitative research*. London, United Kingdom: Sage Publications.

Flick, U. (2018b). Triangulation in data collection. In *The SAGE handbook of qualitative data collection* (Vol. 2, pp. 527-544). London, United Kingdom: Sage Publications.

Forlin, C. (2001). Inclusion: Identifying potential stressors for regular class teachers. *Educational Research, 43*(3), 235-245. doi:10.1080/00131880110081017

Forlin, C. (2006). Inclusive education in Australia ten years after Salamanca. *European Journal of Psychology of Education, 21*(3), 265-277. doi:10.1007/BF03173415

Freeman, C. (2020). Multiple methods beyond triangulation: Collage as a methodological framework in geography. *Geografiska Annaler: Series B, Human Geography, 102*(4), 1-13. doi:10.4135/9781526416070.n34

Freeman, J., Simonsen, B., McCoach, D. B., Sugai, G., Lombardi, A., & Horner, R. (2016). Relationship between school-wide positive behavior interventions and supports and academic, attendance, and behavior outcomes in high schools. *Journal of Positive Behavior Interventions, 18*(1), 41-51. doi:10.1177/1098300715580992

Freiberg, H. J., & Lamb, S. M. (2009). Dimensions of person-centered classroom management. *Theory into Practice, 48*(2), 99-105. doi:10.1080/00405840902776228

Frenzel, A. C., Becker-Kurz, B., Pekrun, R., & Goetz, T. (2015). Teaching this class drives me nuts!-examining the person and context specificity of teacher emotions. *PloS one, 10*(6), 1-15. doi:10.6084/m9.figshare.1263859

Frenzel, A. C., Pekrun, R., Goetz, T., Daniels, L. M., Durksen, T. L., Becker-Kurz, B., & Klassen, R. M. (2016). Measuring teachers’ enjoyment, anger, and anxiety: The teacher emotions scales. *Contemporary Educational Psychology, 46,* 148-163. doi:10.1016/j.cedpsych.2016.05.003

Froiland, J. M., & Smith, L. (2014). Advancing the discussion about systematic classroom behavioral observation, a product review of tenny, j. (2010). Ecove observation software. Pacific city, or: Ecove software, llc. *Journal of Attention Disorders, 18*(4), 385-391. doi:10.1177/1087054712436585

Fry, J., Klages, C., & Venneman, S. (2018). Using a written journal technique to enhance inquiry-based reflection about teaching. *Reading Improvement*, *55*(1), 39-48. doi:10.1080/2331186X.2017.1374234

Fullan, M., Rincón-Gallardo, S., & Hargreaves, A. (2015). Professional capital as accountability. *Education Policy Analysis Archives, 23*(15), 1-22. doi:10.14507/epaa.v23.1998

Gabrys-Barker, D. (2018). On teacher beliefs, self-identity and the stages of professional development. *Linguarum Arena, 1*(1), 25-42. doi:10.1177/0022487118788838

Gage, N., Sugai, G., Lewis, T., & Brzozowy, S. (2015). Academic achievement and school-wide positive behaviour supports. *Journal of Disability Policy Studies, 25*(4), 199-209. doi:10.1177/1044207313505647

Galand, B., Lecocq, C., & Philippot, P. (2007). School violence and teacher professional disengagement. *British Journal of Educational Psychology, 77*(2), 465-477. doi:10.1348/000709906X114571

Galloway, D., Ball, T., Blomfield, D., & Seyd, R. (1982). *Schools and disruptive pupils*. Essex, UK: Longman Group Limited.

Gauss, C. F. (1874). *Carl Friedrich Gauss Werke* (Vol. 6). Druckerei W. Fr. Kaestner: Gedruckt in der Dieterichschen Universitäts.

George, J. M., & Dane, E. (2016). Affect, emotion, and decision making. *Organizational Behavior and Human Decision Processes, 136*, 47-55. doi:10.1146/annurev-psych-010213-115043

Gershoff, E. T. (2017). School corporal punishment in global perspective: Prevalence, outcomes, and efforts at intervention. *Psychology, Health & Medicine, 22*(1), 224-239. doi:10.1111/cdep.12038

Gershoff, E. T., Purtell, K. M., & Holas, I. (2015). We have hit bottom by using corporal punishment in the schools. *American Psychological Association, 60*(34), 1-5. doi:10.1037/a0039502

Geršicová, Z. (2016). Class teachers–their thinking and reasoning in the context of creating a favourable classroom social climate by means of the methods of personal and social education. *Acta Technologica Dubnicae, 6*(1), 27-41. doi:10.1515/atd-2016-0004

Giallo, R., & Little, E. (2003). Classroom behaviour problems: The relationship between preparedness, classroom experiences and self efficacy in graduate and student teachers. *Australian Journal of Educational and Developmental Psychology, 3*, 21-34. doi:10.14221/ajte.2011v36n10.3

Gigerenzer, G., & Gaissmaier, W. (2015). Decision making: Nonrational theories. In *International encyclopedia of the social & behavioral sciences* (pp. 911-916). Amsterdam, NY: Elsevier.

Gillies, V. (2011). Social and emotional pedagogies: Critiquing the new orthodoxy of emotion in classroom behaviour management. *British Journal of Sociology of Education, 32*(2), 185-202. doi:10.1080/01425692.2011.547305

Girardet, C. (2018). Why do some teachers change and others don't? A review of studies about factors influencing in-service and pre-service teachers' change in classroom management. *Review of Education, 6*(1), 3-36. doi:10.1002/rev3.3104

Girvan, C., Conneely, C., & Tangney, B. (2016). Extending experiential learning in teacher professional development. *Teaching and Teacher Education, 58*, 129-139. doi:10.1016/J.TATE.2016.04.009

Glynn, T. (2017). Building an effective teaching environment. In *Psychological aspects of learning and teaching* (pp. 40-59). London, United Kingdom: Routledge.

Goddard, R. D., Skrla, L., & Salloum, S. J. (2017). The role of collective efficacy in closing student achievement gaps: A mixed methods study of school leadership for excellence and equity. *Journal of education for students placed at risk, 22*(4), 220-236. doi:10.1177/0004944113485840

Goldberg, A. F. (2020). *Restorative practices.* (Senior Honour Thesis). Suny College, Cortland, NY.

Goldkuhl, G. (2012). Pragmatism vs interpretivism in qualitative information systems research. *European Journal of Information Systems, 21*(2), 135-146. doi:10.1057/ejis.2011.54

Goldstein, W. M., & Hogarth, R. M. (1997). Judgment and decision research: Some historical context. *Research on Judgment and Decision Making: Currents, Connections, and Controversies, 117*(3), 3-65. doi:10.4135/9781848608368.n17

Goodman, R. D. (1968). *Secondary education in Queensland: 1860-1960*. Canberra, Australia: Australian National University Press.

Gorroochurn, P. (2016). On Galton's change from "reversion" to "regression". *The American Statistician, 70*(3), 227-231. doi:10.1080/00031305.2015.1087876

Gorur, R., & Wu, M. (2015). Leaning too far? Pisa, policy and Australia's 'top five'ambitions. *Discourse: Studies in the Cultural Politics of Education, 36*(5), 647-664. doi:10.1080/01596306.2014.930020

Goss, P. (2020). Should you worry about a schools shortage? It really depends on where you live. Victoria, Australia: Gratten Institute

Greenwood, C. R., Hops, H., Walker, H. M., Guild, J. J., Stokes, J., Young, K. R., . . . Willardson, M. (1979). Standardized classroom management program: Social validation and replication studies in Utah and Oregon. *Journal of Applied Behavior Analysis, 12*(2), 235-253. doi:10.1901/jaba.1979.12-235

Grice, C. (2019). Leading pedagogical reform. *International Journal of Leadership in Education 22*, 354-369. doi:10.1080/13603124.2018.1463462

Guion, L. A., Diehl, D. C., & McDonald, D. (2011). *Triangulation: Establishing the validity of qualitative studies*. Gainesville, Fl: University of Florida

Guzak, J. R. 2015. "Affect in Ethical Decision Making: Mood Matters." *Ethics & Behavior* 25 (5):386–399. doi:10.1080/10508422.2014.941980.

Hafenbrädl, S., Waeger, D., Marewski, J. N., & Gigerenzer, G. (2016). Applied decision making with fast-and-frugal heuristics. *Journal of Applied Research in Memory and Cognition, 5*(2), 215-231. doi:10.1016/j.jarmac.2016.04.011

Hagenauer, G., Hascher, T., & Volet, S. E. (2015). Teacher emotions in the classroom: Associations with students' engagement, classroom discipline and the interpersonal teacher-student relationship. *European Journal of Psychology of Education, 30*(4), 385-403. doi:10.1007/s10212-015-0250-0

Hall, L. (2012). The 'come and go'syndrome of teachers in remote indigenous schools: Listening to the perspective of indigenous teachers about what helps teachers to stay and what makes them go. *The Australian Journal of Indigenous Education, 41*(2), 187-195. doi:10.1375/S1326011100000612

Hallencreutz, J., & Parmler, J. (2019). Important drivers for customer satisfaction–from product focus to image and service quality. *Total Quality Management & Business Excellence, 10*(1), 1-10. doi:10.1080/14783363.2019.1594756

Hamama, L., Ronen, T., Shachar, K., & Rosenbaum, M. (2013). Links between stress, positive and negative affect, and life satisfaction among teachers in special education schools. *Journal of Happiness Studies, 14*(3), 731-751. doi:10.1007/s10902-012-9352-4

Hammel, J. (2018). *The effects of restorative practices on student behavior.* (Masters). Goucher College, Baltimore, MD.

Hammersley, M. (2002). Ethnography and realism. In *The qualitative researcher's companion* (pp. 65-80). Thousand Oaks, CA: Sage Publications.

Hannan, M. Q., Hamilton, L. S., & Kaufman, J. H. (2019). Raising the bar for teacher preparation: Early signals on how Louisiana's education policy strategies are working across the state. Santa Monica, CA: RAND Corporation.

Hansen, M. H. (2010). Democratic freedom and the concept of freedom in Plato and Aristotle. *Greek, Roman, and Byzantine Studies, 50*(1), 1-27. doi:10.1002/9781118474396.wbept0388

Harbour, K. E., Evanovich, L. L., Sweigart, C. A., & Hughes, L. E. (2015). A brief review of effective teaching practices that maximize student engagement. *Preventing School Failure: Alternative Education for Children and Youth, 59*(1), 5-13. doi:10.1177/01626434150300010

Hargreaves, A. (2001). Beyond anxiety and nostalgia: Building a social movement for educational change. *Phi Delta Kappan, 82*(1), 373-377. doi:10.1177/003172170108200507

Hargreaves, A. (2019). Teacher collaboration: 30 years of research on its nature, forms, limitations and effects. *Teachers and Teaching, 25*(5), 603-621. doi:10.1080/13540602.2019.1639499

Hargreaves, A., & Heap, S. (2013). What is the meaning of behavioural economics? *Cambridge Journal of Economics, 37*(5), 985-1000. doi:10.1093/cje/bes090

Hargreaves, E., Elhawary, D., & Mahgoub, M. (2018). 'The teacher who helps children learn best': Affect and authority in the traditional primary classroom. *Pedagogy, Culture & Society, 26*(1), 1-17. doi:10.1080/14681366.2017.1314318

Harmsen, R., Helms-Lorenz, M., Maulana, R., & van Veen, K. (2018). The relationship between beginning teachers' stress causes, stress responses, teaching behaviour and attrition. *Teachers and Teaching, 24*(6), 626-643. doi:10.1080/13540602.2018.1465404

Harrison, J. R., & March, J. G. (1984). Decision making and postdecision surprises. *Administrative Science Quarterly, 29*(1), 26-42. doi:10.2307/2393078

Hartle, A. E. (2004). *Moral issues in military decision making*. Lawrence, KS: University Press of Kansas.

Hattie, J. (2003). *Teachers make a difference, what is the research evidence?* Paper presented at the Building Teacher Quality: What does the research tell us? ACER Research Conference, Melbourne, Australia.

Hattie, J. (2009). Visible teaching: Visible learning. A synthesis of over 800 meta-analyses relating to achievement. London, UK: Routledge.

Hattie, J. (2012). Visible learning for teachers: Maximizing impact on learning. New York, NY: Routledge.

Hattie, J. (2016). Know thy impact- on formative assessment: Readings from educational leadership. *Educational Leadership, 36*(2), 18-23. doi:10.1177/1053451214536044

Hattie, J., & Zierer, K. (2017). *10 mindframes for visible learning: Teaching for success*. London, UK: Routledge.

Hay, C. (2016). Good in a crisis: The ontological institutionalism of social constructivism. *New Political Economy, 21*(6), 520-535. doi:10.1080/13563467.2016.1158800

Hayden, M., & McIntosh, S. (2018). International education: The transformative potential of experiential learning. *Oxford Review of Education, 44*(4), 403-413. doi:10.1080/03054985.2017.1402757

Hemphill, S. A., Toumbourou, J. W., Smith, R., Kendall, G. E., Rowland, B., Freiberg, K., & Williams, J. W. (2010). Are rates of school suspension higher in socially disadvantaged neighbourhoods? An Australian study. *Health Promotion Journal of Australia, 21*(1), 12-18. doi:10.1071/HE10012

Hennink, M., Hutter, I., & Bailey, A. (2020). *Qualitative research methods*. Thousand Oaks, CA: Sage publications.

Hensley, L., Pekrun, R., Goetz, T., Frenzel, A. C., & Keller, M. M. (2014). Exploring teacher emotions: A literature review and an experience sampling study. In *Teacher Motivation* (pp. 91-104). Philadelphia, Pennsylvania: Routledge.

Hepburn, L., & Beamish, W. (2019). Towards implementation of evidence-based practices for classroom management in Australia: A review of research. *Australian Journal of Teacher Education, 44*(2), 82-98. doi:10.14221/ajte.2018v44n2.6

Hepburn, L., Beamish, W., & Alston-Knox, C. L. (2020). Classroom management practices commonly used by secondary school teachers: Results from a Queensland survey. *The Australian Educational Researcher, 9*(July), 1-21. doi:10.1007/s13384-020-00402-y

Herman, K. C., Hickmon-Rosa, J., & Reinke, W. M. (2018). Empirically derived profiles of teacher stress, burnout, self-efficacy, and coping and associated student outcomes. *Journal of Positive Behavior Interventions, 20*(2), 90-100. doi:10.1177/1098300717732066

Hertel, G., Meeßen, S. M., Riehle, D. M., Thielsch, M. T., Nohe, C., & Becker, J. (2019). Directed forgetting in organizations: The positive effects of decision support systems on mental resources and wellbeing. *Ergonomics, 62*(5), 597-611. doi:10.1080/00140139.2019.1574361

Hertiki, H. (2017). Creating a welcoming classroom environment for young learners at Merlion school, Surabaya. *Magister Scientiae, 1*(41), 54-67. doi:10.33508/mgs.v0i41.1564

Hill, P. W., Rowe, K. J., Holmes-Smith, P., & Russell, V. J. (1996). *The Victorian quality schools project: A study of school and teacher effectiveness*. Victoria, Australia: University of Melbourne Press

Ho, S.-H., & Liu, K. (2015). A qualitative study of decision making process between expert and novice teachers in teaching students with intellectual disability. (PhD). Chung Yuan Christian University, Chung Li, Taiwan.

Hobbiss, M., Sims, S., & Allen, R. (2021). Habit formation limits growth in teacher effectiveness: A review of converging evidence from neuroscience and social science. *Review of Education, 9*(1), 3-23. doi:10.1002/rev3.3227

Hoch, S., Kurnreuther, H., & Gunther, R. (2001). *Wharton on decision making*. New York, NY: John Wiley & Sons, Inc.

Hodgkinson, G. P., & Starbuck, W. H. (2008). *The oxford handbook of organizational decision making*. London: Oxford Handbooks.

Holderness, G. (1988). *The Shakespeare myth*. Manchester, UK: Manchester University Press.

Honig, M. (2006). Complexity and policy implementation. In *New Directions in Education Policy Implementation: Confronting Complexity* (pp. 1-25). Albany: State University of New York Press

Hook, S. (1984). Education in defense of a free society. In *Commentary 2010s* (Vol. 1, pp. 17-22). New York, NY: Commentary.

Hopkins, D. M., J. & Craig, W. (2011). *Powerful learning a strategy for systemic educational improvement.* Camberwell Victoria: ACER Press.

Horner, R., Sugai, G., Smolkowski, K., Eber, L., Nakasato, J., Todd, A. W., & Esperanza, J. (2009). A randomized, wait-list controlled effectiveness trial assessing school-wide positive behavior support in elementary schools. *Journal of Positive Behavior Interventions, 20*(10). doi:10.1177/1098300709332067

Horner, S. B., Fireman, G. D., & Wang, E. W. (2010). The relation of student behavior, peer status, race, and gender to decisions about school discipline using chaid decision trees and regression modeling. *Journal of School Psychology, 48*(2), 135-161. doi:10.1016/j.jsp.2009.12.001

Howat, B. L. (1990). *Teacher efficacy and student-perceived competence: Feeling good about doing well.* (Master of Education). Univeristy of Mantoba, Winnipeg, Manatoba.

Hunter, M. C. (1982). *Mastery teaching*. Thousand Oaks, CA: Corwin Press.

Huppes-Cluysenaer, L. (2018). Religion of humanity: A shift from a dialogical to a categorical model of rationality. In *Aristotle on Emotions in Law and Politics* (pp. 155-200). Manhatten: NY: Springer.

Ibrahim, A., & Al-Taneiji, S. (2012). Principal leadership style, school performance, and principal effectiveness in dubai schools. *International Journal of Research Studies in Education, 2*(1), 41-54. doi:10.5861/ijrse.2012.86

Ingram, D., Louis, K. S., & Schroeder, R. G. (2004). Accountability policies and teacher decision making: Barriers to the use of data to improve practice. *Teachers College Record, 106*(6), 1258-1287.

Ingvarson, L., Meiers, M., & Beavis, A. (2005). Factors affecting the impact of professional development programs on teachers' knowledge, practice, student outcomes & efficacy. *Professional Development for Teachers and School Leaders, 17*(10), 1-24. doi:10.14507/epaa.v13n10.2005

Ingvarson, L., & Rowley, G. (2017). Quality assurance in teacher education and outcomes: A study of 17 countries. *Educational Researcher, 46*(4), 177-193. doi:10.3102/0013189X17711900

Iovannone, R., Anderson, C., & Scott, T. (2017). Understanding setting events: What they are and how to identify them. *Beyond Behavior, 26*(3), 105-112. doi:107429561772979

Irby, D. M., & O'Sullivan, P. S. (2018). Developing and rewarding teachers as educators and scholars: Remarkable progress and daunting challenges. *Medical Education, 52*(1), 58-67. doi:10.1111/medu.13379

Irwin, J. F., and D. L. Real. 2014. "Unconscious Influences on Judicial Decision-making: The Illusion ofObjectivity." *Behavioral and Brain Sciences* 37: 1–19. doi:10.1017/S0140525X12003214.

Iyengar, S. S., Wells, R. E., & Schwartz, B. (2006). Doing better but feeling worse: Looking for the "best" job undermines satisfaction. *Psychological Science, 17*(2), 143-150. doi:10.1111/j.1467-9280.2006.01677.x

Jackson, C., Simoncini, K., & Davidson, M. (2013). Classroom profiling training: Increasing preservice teachers confidence and knowledge of classroom management skills. *Australian Journal of Education, 38*(8), 30-46. doi:10.14221/ajte.2013v38n8.2

Jackson, K., & Bazeley, P. (2019). *Qualitative data analysis with nvivo*. Thousand Oaks, CA: Sage Publications.

Jackson, P. (1990). *Life in classrooms*. New York, NY: Teachers College Press.

Jagtap, A. S. (2019). *Data-driven decision making*. Morrisville, California: Lulu.

James, W. (2013). *The principles of psychology*. Redditch, Worcestershire: Read Books Ltd.

Jenkins, C. S., & Nolan, D. (2010). Maximising, satisficing and context. *Noûs, 44*(3), 451-468. doi:10.1111/j.1468-0068.2010.00750.x.

Jhang, F. H. 2020. "Teachers' Attitudes Towards Lesson Study, Perceived Competence, and Involvement in Lesson Study: Evidence from Junior High School Teachers." *Professional Development in Education* 46 (1): 82–96. doi:10.1080/19415257.2019.1585383.

Jiang, L., & Smith, R. (2017). Teaching in Australia: Chinese university teachers talk about how they found teaching jobs in Australia. *International Journal of Innovation, Creativity and Change, 3*(1), 26-38. doi:10.1007/s10734-011-9455-6

Johnson, R. T., & Johnson, D. W. (2008). *Active learning: Cooperation in the classroom* (0452-9650). Retrieved from Japan, Tokyo:

Joyce, B., Murphy, C., Showers, B., & Murphy, J. (1989). School renewal as cultural change. *Educational Leadership, 47*(3), 70-77. doi:10.4135/9781452277974.n1

Kahneman, D. (2003). Maps of bounded rationality: Psychology for behavioral economics. *American Economic Review, 93*(5), 1449-1475. doi:10.1257/000282803322655392

Kalolo, J. F. (2019). Digital revolution and its impact on education systems in developing countries. *Education and Information Technologies, 24*(1), 345-358. doi:10.1007/s10639-018-9778-3

Kang, M., & Kim, B. (2019). Understanding different motivational mechanisms for downward, lateral, and upward knowledge transfer. *Social Behavior and Personality: An International Journal, 47*(10), 1-11. doi:10.2224/sbp.8561

Kant, I. 1999. *Practical Philosophy*. Cambridge, UK: Cambridge University Press.

Kant, I. 2017. *Kant: The Metaphysics of Morals*. Cambridge, UK: Cambridge University Press.

Karmel, P. (1985). *Quality of education in Australia: Report of the review committee*. Canberra, Australia: Australian Government Publishing Service

Kearney, S. (2014). Teacher attrition, retention and mobility: Where does Australia stand? *Education and Society, 32*(2), 5-24. doi:10.7459/es/32.2.02

Kennedy, M. M. (2016). How does professional development improve teaching? *Review of Educational Research, 86*(4), 945-980. doi:10.3102/0034654315626800

Kenwright, D., McLaughlin, T., & Hansen, S. (2021). Teachers' perspectives about mindfulness programmes in primary schools to support wellbeing and positive behaviour. *International Journal of Inclusive Education,* Advanced online publication. doi:10.1080/13603116.2020.1867382

Kern, L., Hilt, A. M., & Gresham, F. M. (2004). An evaluation of the functional behavioral assessment process used with students with or at risk for emotional and behavioral disorders. *Education and Treatment of Children, 27*(4), 440-452. doi:10.1177/019874291203700201

Kern, M. L., Williams, P., Spong, C., Colla, R., Sharma, K., Downie, A., . . . Oades, L. G. (2020). Systems informed positive psychology. *The Journal of Positive Psychology, 15*(6), 705-715. doi:10.1080/17439760.2019.1639799

Khong, T. D. H., Saito, E., & Gillies, R. M. (2019). Key issues in productive classroom talk and interventions. *Educational Review, 71*(3), 334-349. doi:10.1080/00131911.2017.1410105

Kilic, Y. (2020). How cultural, social, political and religious forces shape principals' roles and challenges: Evidence from four primary schools in turkey. (Masters). University of Leicester, Leicester, UK.

King, N., Horrocks, C., & Brooks, J. (2018). *Interviews in qualitative research*. London, United Kingdom: Sage publications.

Kjerulf, A. (2007). *Happy Hour is 9 to 5*. Copenhagen, Denmark: Pine Tribe.

Kleeberg, P., Paal, M., & Hintz, A.-M. (2017). Barriers and enablers of implementing and/or sustaining SWPBS in school settings-a systematic review of qualitative research literature. Paper presented at the Research Symposium of the PBS-Europe Network, Oldenberg, Europe.

Klette, K., & Blikstad-Balas, M. (2018). Observation manuals as lenses to classroom teaching: Pitfalls and possibilities. *European Educational Research Journal, 17*(1), 129-146. doi:10.1177/1474904117703228

Knight, F. H. (2012). *Risk, uncertainty and profit*. Honolulu, HI: Courier Corporation.

Knight, J. (1995). Post/modernity: Marking the difference? *Discourse: Studies in the Cultural Politics of Education, 16*(2), 263-270. doi:10.1080/0159630950160208

Knoblock, J. (1990). *Xunzi: A translation and study of the complete works* (Vol. 2). Stanford, CA: Stanford University Press.

Kohn, A. (2011). Ten obvious truths that we shouldn't be ignoring. *The Education Digest, 77*(1), 11-16. doi:10.1177/0022487102053002003

Kolb, D. A. (2014). Experiential learning: Experience as the source of learning and development. Melbourne, Victoria: Pearson Education.

Kolb, D. A., Boyatzis, R. E., & Mainemelis, C. (2001). Experiential learning theory: Previous research and new directions. *Perspectives on Thinking, Learning, and Cognitive Styles, 1*(8), 227-247. doi:10.1002/job.4030080408

Konold, T., Cornell, D., Jia, Y., & Malone, M. (2018). School climate, student engagement, and academic achievement: A latent variable, multilevel multi-informant examination. *Aera Open, 4*(4), 1-17. doi:10.1177/2332858418815661

Kounin, J. S. (1970). *Discipline and group management in classrooms*. New York, NY: Reinhart & Winston.

Kounin, J. S., & Gump, P. V. (1958). The ripple effect in discipline. *The Elementary School Journal, 59*(3), 158-162. doi:10.1086/459706

Kounin, J. S., & Gump, P. V. (1961). The comparative influence of punitive and nonpunitive teachers upon children's concepts of school misconduct. *Journal of Educational Psychology, 52*(1), 44-49. doi:10.1037/h0044705

Kozleski, E. B. (2017). The uses of qualitative research: Powerful methods to inform evidence-based practice in education. *Research and Practice for Persons with Severe Disabilities, 42*(1), 19-32. doi:10.1177/1540796916683710

Krockenberger, M. (2015). *Population growth in Australia*. Canberra, ACT: The Australia Institute

Kyriakides, L., Anthimou, M., & Panayiotou, A. (2020). Searching for the impact of teacher behavior on promoting students' cognitive and metacognitive skills. *Studies in Educational Evaluation, 64*, 1-14. doi:10.1016/j.stueduc.2019.100810

Kurz, T., Gardner, B., Verplanken, B., & Abraham, C. (2015). Habitual behaviors or patterns of practice? Explaining and changing repetitive climate-relevant actions. *Wiley Interdisciplinary Reviews: Climate Change, 6*(1), 113-128. doi:10.1002/wcc.327

Kuswandono, P. (2017). Reflective practices for teacher education. *Language Learning Teaching Journal: A Journal on Language and Language Teaching, 15*(1), 149-162. doi:10.24071/llt.2012.150102

Kutsyuruba, B., Klinger, D. A., & Hussain, A. (2015). Relationships among school climate, school safety, and student achievement and well-being: A review of the literature. *Review of Education, 3*(2), 103-135. doi:10.1002/rev3.3043

Kyndt, E., Gijbels, D., Grosemans, I., & Donche, V. (2016). Teachers' everyday professional development: Mapping informal learning activities, antecedents, and learning

outcomes. *Review of Educational Research, 86*(4), 1111-1150. doi:10.3102/0034654315627864

Lam, C.-M., Kwong, W.-M., & To, S.-M. (2019). Has parenting changed over past decade? A qualitative study of generational shifts in parenting. *International Journal of Social Science and Humanity, 9*(2), 42-47. doi:10.18178/ijssh.2019.9.2.988

Lanas, M., and K. Brunila. 2019. "Bad Behaviour in School: A Discursive Approach." *British Journal ofSociology of Education* 40 (5): 682–695. doi:10.1080/01425692.2019.1581052.

Langewitz, W. (2020). Reaching wise decisions, shared decision making, and information recall-a causal relationship or just an association? *Patient Education and Counseling, 103*(1), 2-4. doi:10.1016/j.pec.2019.11.011

Lasagabaster, D., & Sierra, J. M. (2011). Classroom observation: desirable conditions established by teachers. *European Journal of Teacher Education, 34*(4), 449-463. doi:10.1080/02619768.2011.587113

Leaman, L. (2007). Dictionary of disruption: A pratical guide to behaviour management. Bloosmburt, UK: Ashford Colour Press.

LeBlanc, V. R., M. M. McConnell, and S. D. Monteiro. 2015. "Predictable Chaos: A Review of the Effects of Emotions on Attention, Memory and Decision Making." *Advances in Health Sciences Education*20 (1): 265–282. doi:10.1007/s10459-014-9516-6.

Leech, N. L., & Onwuegbuzie, A. J. (2007). An array of qualitative data analysis tools: A call for data analysis triangulation. *School Psychology Quarterly*, *22*(4), 557-584. doi:10.1037/1045-3830.22.4.557

Lemov, D. (2015). Teach like a champion 2.0: 62 techniques that put students on the path to college. Hoboken, NJ: John Wiley & Sons.

Lerner, J. S., Li, Y., Valdesolo, P., & Kassam, K. S. (2015). Emotion and decision making. *Annual Review of Psychology, 66*, 799-823. doi:10.1146/annurev-psych-010213-115043

Leslie, A. (2018). Professional learning and development for teacher aides working to support students with challenging behaviour: What are the needs? What works? A review of the literature. *Kairaranga, 19*(2), 47-53. doi:10.14221/ajte.2012v37n7.1

Leung, D. Y., & Lee, W. W. (2016). Predicting intention to quit among Chinese teachers: Differential predictability of the components of burnout. *Anxiety, Stress, and Coping, 19*(2), 129-141. doi:10.1080/10615800600565476

Lewis, R., Romi, S., Qui, X., & Katz, Y. J. (2005). Teachers' classroom discipline and student misbehaviour in Australia, China, and Israel. *Teaching and Teacher Education, 21*, 729–741. doi:10.1016/j.tate.2005.05.008

Lightfoot, S. L., & Carew, J. V. (1976). Individuation and discrimination in the classroom. *Journal of Orthopsychiatry, 46*(3), 401-415. doi:10.1111/j.1939-0025.1976.tb00940.x

Lindqvist, P., Nordänger, U. K., & Carlsson, R. (2014). Teacher attrition the first five years–a multifaceted image. *Teaching and Teacher Education, 40*, 94-103. doi:10.1016/j.tate.2014.02.005

Lingard, B. (1993). The changing state of policy production in education: Some Australian reflections on the state of policy sociology. *International Studies in Sociology of Education, 3*(1), 25-47. doi:10.1080/08109020110110916

Lingard, B. (2000). Federalism in schooling since the Karmel report (1973), schools in Australia: From modernist hope to postmodernist performativity. *The Australian Educational Researcher, 27*(2), 25-61. doi:10.1007/BF03219720

Littky, D., & Grabelle, S. (2017). *The Big Picture: Education Is Everyone's Business*. Logan, UT: Jenson Books, Inc.

Llewellyn, L. L., Boon, H. J., & Lewthwaite, B. E. (2018). Effective behaviour management strategies for Australian Aboriginal and Torres Strait islander students: A literature review. *Australian Journal of Teacher Education, 43*(1), 1-27. doi:10.14221/ajte.2018v43n1.1

Lloyd, B. P., E. S. Weaver, and J. L. Staubitz. 2016. "A Review of Functional Analysis Methods Conducted in Public School Classroom Settings." *Journal of Behavioral Education* 25 (3):324–356. doi:10.1007/s10864-015-9243-y.

Logan, G., & Clarke, E. (1984). *State education in Queensland: A brief history*. Queensland, Australia

Lopez, S. J., Pedrotti, J. T., & Snyder, C. R. (2018). *Positive psychology: The scientific and practical explorations of human strengths* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Loprinzi, P. D. (2019). Association between habitual physical activity on episodic memory strategy use and memory controllability. *Health Promotion Perspectives, 9*(1), 65-70. doi:10.15171/hpp.2019.08

Lorkowski, J., & Kreinovich, V. (2018). Bounded rationality in decision making under uncertainty: Towards optimal granularity (Vol. 1). Manhattan, NY: Springer.

Louden, I. W. (1985). *Disruptive behaviour in schools*. Perth, Western Australia: Education Department of Western Australia

Loughran, J. (2019a). Pedagogical reasoning: The foundation of the professional knowledge of teaching. *Teachers and Teaching, 25*(5), 1-13. doi:10.1080/13540602.2019.1633294

Loughran, J. (2019b). Pedagogical reasoning: The foundation of the professional knowledge of teaching. *Teachers and Teaching*, 1-13. doi:10.1080/13540602.2019.1633294

Loyens, K., & Maesschalck, J. (2010). Toward a theoretical framework for ethical decision making of street-level bureaucracy: Existing models reconsidered. *Administration & Society, 42*(1), 66-100. doi:10.1177/0095399710362524

Luhn, H. P. (1957). A statistical approach to mechanized encoding and searching of literary information. *IBM Journal of Research and Development, 1*(4), 309-317. doi:10.1147/rd.14.0309

Luhn, H. P. (1960). Key word-in-context index for technical literature (KWIC index). *American Documentation, 11*(4), 288-295. doi:10.1002/asi.5090110403.

Luke, A. (2018). *Educational policy, narrative and discourse*. New York, NY: Routledge.

Lynch, L. (2020). Queensland schools with most student suspensions revealed. *Brisbane Times*.

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin, 131*(6), 803-855. doi:DOI 10.1037/0033-2909.131.6.803

Mahon, J. P. (1977). Ingraham v. Wright: The continuing debate over corporal punishment. *Journal of Law and Education, 6*(4), 473-479. doi:10.1080/15210960701443789

Malinen, O.-P., & Savolainen, H. (2016). The effect of perceived school climate and teacher efficacy in behavior management on job satisfaction and burnout: A longitudinal study. *Teaching and Teacher Education, 60*, 144-152. doi:10.1016/j.tate.2016.08.012

Mafora, P. 2013. "Managing Teacher Retention in a Rural School District in South Africa." *The Australian Educational Researcher* 40 (2): 227–240. doi:10.1007/s13384-013-0088-x.

Manolev, J., Sullivan, A., Tippett, N., & Johnson, B. (2020). *School exclusionary practices in Australia*. Retrieved from Perth, South Australia: https://apo.org.au/node/308576

March, J. G. (1999). The pursuit of organizational intelligence: Decisions and learning in organizations. Oxford: Blackwell Publishers, Inc.

Marshall, E. A., & Paul, L. (2018). Education gone bad: Cautionary tales from the united states. *Children's Literature in Education, 49*(1), 1-5. doi:10.1007/s10583-018-9349-7

Martin, S. (2014). Measuring cognitive load and cognition: Metrics for technology-enhanced learning. *Educational Research and Evaluation, 20*(7-8), 592-621. doi:10.1080/13803611.2014.997140

Marzano, R. J. (2017). *The new art and science of teaching*. Denver: Solution Tree Press.

Marzano, R. J., & Marzano, J. S. (2003). The key to classroom management. In (pp. 206-213). Alexandria, VA: The Association for Supervision and Curriculum Development.

Maslach, C., & Leiter, M. P. (2017). New insights into burnout and health care: Strategies for improving civility and alleviating burnout. *Medical Teacher, 39*(2), 160-163. doi:10.1080/0142159X.2016.1248918

Maslow, A., & Lewis, K. J. (1987). Maslow's hierarchy of needs. *Psychological Review, 14*(50), 370-396. doi:10.1037/h0054346

Mason, S., & Matas, C. P. (2015). Teacher attrition and retention research in Australia: Towards a new theoretical framework. *Australian Journal of Teacher Education, 40*(11), 45-66. doi:10.14221/ajte.2015v40n11.3

Maxwell, K. (2017). The relationship of school-wide positive behavior supports to male students' standardized test scores, office discipline referrals and suspensions in an urban middle school. *Psychology in the Schools, 43*(6), 701-712. doi:10.1002/pits.20177

Mayan, M. J. (2016). *Essentials of qualitative inquiry*. London, United Kingdom: Routledge.

Mayer, D., & Mills, M. (2021). Professionalism and teacher education in Australia and England. *European Journal of Teacher Education, 44*(1), 45-61. doi:10.1080/02619768.2020.1832987

McCarty, C. (2019). *Four dimensions*. Morrisville, North Carolina: Lulu publishing.

McGarrigle, L., Beamish, W., & Hay, S. (2021). Measuring teacher efficacy to build capacity for implementing inclusive practices in an Australian primary school. *International Journal of Inclusive Education,* Advanced online publication. doi:10.1080/13603116.2020.1867657

McGrath, K. F., and P. Van Bergen. 2015. "Who, When, Why and to What End? Students at Risk ofNegative Student–teacher Relationships and Their Outcomes." *Educational Research Review* 14:1–17. doi:10.1016/j.edurev.2014.12.001.

Memari, M., and A. Gholamshahi. 2018. "Attitudinal and Affective Classroom Ecology andAtmosphere." *Applied Linguistics Research Journal* 4 (2): 1–14. doi:10.14744/alrj.2020.92400ALR.

Merrett, F., & Wheldall, K. (1993). How do teachers learn to manage classroom behaviour? A study of teachers' opinions about their initial training with special reference to classroom behaviour management. *Educational Studies, 19*(1), 91-106. doi:10.1080/0305569930190106

Merriam, S. (2009). Qualitative research: A guide to design and implementation. San Francisco: Jossey-Bass.

Meyer, S. W., & Bowhay, V. (2020). Transforming the promise of education in a rapidly changing society. In *Higher Education Response to Exponential Societal Shifts* (pp. 276-294). Hershey, Pennsylvania: IGI Global.

Michalsky, T. (2021). Preservice and Inservice Teachers' Noticing of Explicit Instruction for Self-Regulated Learning Strategies. *Frontiers in Psychology, 12*(1), 1-12. doi:10.3389/fpsyg.2021.630197

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Fundamentals of qualitative data analysis* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Mills, J., Bonner, A., & Francis, K. (2006). Adopting a constructivist approach to grounded theory: Implications for research design. *Journal of Nursing Practitioner, 12*(1), 8-13. doi:10.1111/j.1440-172X.2006.00543.x

Ministerial Advisory Committee for Education Renewal. (2005). The report of the behaviour management in Queensland schools sub-committee of the ministerial advisory committee for educational renewal. Retrieved from Brisbane, Queensland: http://www.aaee.org.au/wp-content/uploads/2017/08/AAEE-Education-for-Sustainability-and-the-Australian-Curriculum-Project-Final-Report-2015.pdf

Ministry of Education. (2015). *Positive behaviour for learning: Overview*. Wellington: Ministry of Education.

Mintzberg, H. (1989). Mintzberg on management: Inside our strange world of organizations. New York City: Simon and Schuster.

Mitchell, J. (2019). Supporting the emotional regulation of pupils with complex needs: What type of primary school intervention is most effective and what are the challenges of implementation and evaluation as a teacher-researcher? University of York, New York, NY.

Mogashoa, T. (2014). Understanding critical discourse analysis in qualitative research. *International Journal of Humanities Social Sciences and Education, 1*(7), 104-113. doi:10.1080/09518398.2016

Montgomery, W. (2001). Creating culturally responsive, inclusive classrooms. *Teaching Exceptional Children, 33*(4), 4-9. doi:10.1177/004005990103300401

Mooney, P., & Ryan, J. B. (2017). Beyond "obtaining an FBA": The logic and utility of addressing function when attending to problem behavior. Los Angeles, CA: Sage Publications.

Moore, M. G. (1973). Toward a theory of independent learning and teaching. *The Journal of Higher Education, 44*(9), 661-679. doi:10.1080/00221546.1973.11776906

Moray, N. 1979. "Models and Measures of Mental Workload." In *Mental Workload*, 13–21. Boston, MA: Springer.

Mortimore, P. (1991). School effectiveness research: Which way at the crossroads? *School effectiveness and school improvement, 2*(3), 213-229. doi:10.1080/0924345910020304

Mullins, L. J. (2007). *Management and organisational behaviour*. London, United Kingdom: Pearson Education.

Muna, F. (2019). Definitions of disruptive behaviour by secondary school teachers of Brunei Darussalam. *Indian Journal of Public Health Research & Development, 10*(6), 1604-1608. doi:10.5958/0976-5506.2019.01525.0

Murray, J. D., Jaramillo, J., & Wang, X.-J. (2017). Working memory and decision-making in a frontoparietal circuit model. *Journal of Neuroscience, 37*(50), 12167-12186. doi:10.1016/S0079-6123(05)49011-1

Musgrave, P. W. (1975). Changing society: Some underlying assumptions of the karmel report. *Australian Journal of Education, 19*(1), 1-14. doi:10.1177/000494417501900101

Närhi, V., Kiiski, T., Peitso, S., & Savolainen, H. (2014). Reducing disruptive behaviours and improving learning climates with class-wide positive behaviour support in middle schools. *European Journal of Special Needs Education, 30*(2), 274-285. doi:10.1080/08856257.2014.986913

Närhi, V., Kiiski, T., & Savolainen, H. (2017). Reducing disruptive behaviours and improving classroom behavioural climate with class-wide positive behaviour support in middle schools. *British Educational Research Journal, 43*(6), 1186-1205. doi:10.1002/berj.3305

Nash, P., Schlösser, A., & Scarr, T. (2016). Teachers' perceptions of disruptive behaviour in schools: A psychological perspective. *Emotional and Behavioural Difficulties, 21*(2), 167-180. doi:10.1080/13632752.2015.1054670

Nemeth, C. J., Connell, J. B., Rogers, J. D., & Brown, K. S. (2001). Improving decision making by means of dissent. *Journal of Applied Social Psychology, 31*(1), 48-58. doi:10.1111/j.1559-1816.2001.tb02481.x

Nese, R. N., McDaniel, S., Meng, P., Spraggins, L., Babbs, V., & Girvan, E. J. (2020). Restorative and conflict resolution interventions. In. Eugene, Oregon: University of Oregon.

Neville, V. M. (2020). *Affect and decision making: Disentangling underlying processes.* (PhD). University of Bristol, Bristol.

Newell, E. E., McCoy, S. K., Newman, M. L., Wellman, J. D., & Gardner, S. K. (2018). You sound so down: Capturing depressed affect through depressed language. *Journal of Language and Social Psychology, 37*(4), 451-474. doi:10.1177/0261927X17731123

Newton, E., & Robinson, D. (2019). Reflective practice, restorative practice and trust in behaviour management. In Robinson, D. (Ed.), *Classroom Behaviour Management in Further, Adult and Vocational Education: Moving Beyond Control?* (pp. 101-137). New York, NY: Simon and Schuster.

O'Brien, P., Goddard, R., & Keeffe, M. (2008). *Burnout confirmed as a viable explanation for beginning teacher attrition.* Paper presented at the Proceedings of Australian Association for Research in Education Annual Conference (AARE 2007).

O'Connor, M., & Cameron, G. (2017). The Geelong Grammar positive psychology experience. In *Social and emotional learning in Australia and the Asia-Pacific* (pp. 353-370). Singapore: Springer.

Oakes, J., Lipton, M., Anderson, L., & Stillman, J. (2015). *Teaching to change the world*. London: Routledge.

Oh, H., Beck, J. M., Zhu, P., Sommer, M. A., Ferrari, S., & Egner, T. (2016). Satisficing in split-second decision making is characterized by strategic cue discounting. *Journal of Experimental Psychology: Learning, Memory and Cognition, 42*(12), 1937-1956. doi:10.1037/xlm0000284

Oliver, R. M., Wehby, J. H., & Nelson, J. R. (2015). Helping teachers maintain classroom management practices using a self-monitoring checklist. *Teaching and Teacher Education, 51*, 113-120. doi:10.1016/j.tate.2015.06.007

Onosko, J. (1989). Comparing teachers' thinking about promoting students' thinking. *Theory & Research in Social Education, 17*(3), 174-195. doi:10.1080/00933104.1989.10505588

Opfer, V. D., & Pedder, D. (2011). Conceptualizing teacher professional learning. *Review of Educational Research, 81*(3), 376-407. doi:10.3102/0034654311413609

Ostovar-Nameghi, S. A., and M. Sheikhahmadi. 2016. "From Teacher Isolation to Teacher Collaboration: Theoretical Perspectives and Empirical Findings." *English Language Teaching* 9(5): 197–205. doi:10.5539/elt.v9n5p197.

Page, A., & Jones, M. (2020). Transforming teacher education classroom management to provoke philosophies and engender practices of inclusivity. In *Inclusive Education: Global Issues and Controversies* (pp. 147-162). Beijing, CN: Brill Sense.

Paramita, P. P., Anderson, A., & Sharma, U. (2020). Effective teacher professional learning on classroom behaviour management: A review of literature. *Australian Journal of Teacher Education, 45*(1), 5. doi:10.14221/ajte.2020v45n1.5

Parker, A. M., De Bruin, W. B., & Fischhoff, B. (2007). Maximizers versus satisficers: Decision-making styles, competence, and outcomes. *Judgment and Decision Making, 2*(6), 342-357. doi:10.1037/t30193-000.

Parsonson, B. S. (2012). Evidence-based classroom behaviour management strategies. *Kairaranga, 13*(1), 16-23. doi:10.14221/ajte.2014v39n4.4

Pas, E. T., Cash, A. H., O'Brennan, L., Debnam, K. J., & Bradshaw, C. (2015). Profiles of classroom behavior in high schools: Associations with teacher behavior management strategies and classroom composition. *Journal of School Psychology, 53*(2), 137-148. doi:10.1016/j.jsp.2014.12.005

Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health Services Research, 34*(5), 1189-1208. doi:10.1136/eb-2015-102054

Patton, M. Q. (2007). Sampling, qualitative (purposive). *The Blackwell Encyclopedia of Sociology, 32*(2), 319-417. doi:10.1002/9781405165518

Patton, M. Q. (2014). Qualitative research & evaluation methods: Integrating theory and practice. Thousand Oaks, CA: Sage Publications.

Peel, K. (2019). The fundamentals for self-regulated learning: A framework to guide analysis and reflection. *Educational Practice and Theory, 41*(1), 23-49. doi:10.7459/ept/41.1.03

Peel, K. (2019). Behaviour management: Self-regulated learning and well-being. *Australian Council for Educational Research, 25*(1), 15-36. doi:10.18848/2327-7963/CGP/v25i01/15-36

Pérez, A., & de los Salmones, M. d. M. G. (2018). Information and knowledge as antecedents of consumer attitudes and intentions to buy and recommend fair-trade products.

Journal of Nonprofit & Public Sector Marketing, 30(2), 111-133. doi:10.1080/10495142.2017.1326358

Peterson, C., Park, N., & Sweeney, P. J. (2008). Group well-being: morale from a positive psychology perspective. *Applied Psychology, 57*(5), 19-36. doi:0.1111/j.1464-0597.2008.00352.x

Pfadenhauer, M., & Knoblauch, H. (2018). Social constructivism as paradigm?: The legacy of the social construction of reality. Oxfordshire, UK: Routledge.

Pfiffner, L. J., Rosen, L. A., & O'Leary, S. G. (1985). The efficacy of an all-positive approach to classroom management. *Journal of Applied Behavoural Analysis, 18*(3), 257- 261. doi:10.1901/jaba.1985.18-257

Pham, L. T. M. (2018). Qualitative approach to research, a review of advantages and disadvantages of three paradigms: Positivism, interpretivism and critical inquiry. (Master). University of Adelaide, Adelaide, Australia.

Phillips, D. C. (1987). Philosophy, science and social inquiry: Contemporary methodological controversies in social science and related applied fields of research. Oxford, UK: Pergamon Press.

Pierce, W. D., & Cheney, C. D. (2013). *Behavior analysis and learning*. London: Psychology Press.

Pillow, W. (2015). Reflexivity as interpretation and genealogy in research. *Cultural Studies Critical Methodologies, 15*(6), 419-434. doi:10.1177/1532708615615605

Pinto, R. K. (2020). Professional development of teachers: A rating scale on self-assessment of teacher educators for professional development. *Journal of Human Resource Management & Development, 4*(2), 374-405. doi:10.30828/real/2019.2.6

Pintrich, P. R., & DeGroot, E. (1990). *Quantitative and qualitative perspectives on student motivational beliefs and self-regulated learning.* Paper presented at the American Educational Research Association April 16-20, Boston.

Pishghadam, R., & Abbasnejad, H. (2017). Introducing emotions as an invisible force controlling causal decisions: A case of attribution theory. *Polish Psychological Bulletin, 1*(48), 7-21. doi:10.1515/ppb-2017-0016

Porter, L. (2007). Student behaviour: Theory and practice for teachers. Crows Nest: Allen and Unwin.

Ingraham v. Wright, 430 U.S. 651 C.F.R. (1976).

Preciado, J., Jalalian-Chursky, K., Norton, J., Rasikawati, I., & Eigenbrood, R. (2021). Achieving positive classroom experiences for Latino K-5 students. *Journal of Latinos*

and Education, 9(4), 1-15, Advanced online publication. doi:10.1080/15348431.2021.1876696

Prilleltensky, I., Neff, M., & Bessell, A. (2016). Teacher stress: What it is, why it's important, how it can be alleviated. *Theory into Practice, 55*(2), 104-111. doi:10.1080/00405841.2016.1148986

Ramakrishnan, A., Ottmar, E., LoCasale-Crouch, J., & Whitehill, J. (2019). *Toward automated classroom observation: Predicting positive and negative climate.* Paper presented at the 14th IEEE International Conference on Automatic Face & Gesture Recognition, Lille, France.

Ratcliff, R., Voskuilen, C., & McKoon, G. (2018). Internal and external sources of variability in perceptual decision-making. *Psychological Review, 125*(1), 33-46. doi:10.1037/rev0000080

Ravitch, S. M., & Riggan, M. (2016). *Reason & rigor: How conceptual frameworks guide research*. Thousand Oaks, CA: Sage Publications.

Read, C. (2016). The later years and legacy of Carl Friedrich Gauss. In *The Econometricians: Gauss, Galton, Pearson, Fisher, Hotelling, Cowles* (pp. 57-64). New York City, NY: Springer.

Redding, C., & Henry, G. T. (2018). New evidence on the frequency of teacher turnover: Accounting for within-year turnover. *Educational Researcher, 47*(9), 577-593. doi:10.3102/0013189x1881445

Reddy, L., Baghaei, N., Vermeulen, G., Hilton, C., & Steinhorn, G. (2017). *Designing mobile applications for positive behaviour for learning (PB4L) pedagogy*. Paper presented at the International Conference on Computers in Education, Christchurch, NZ.

Reeves, P. M., Pun, W. H., & Chung, K. S. (2017). Influence of teacher collaboration on job satisfaction and student achievement. *Teaching and Teacher Education, 67*, 227-236.

Reinke, W. M., Herman, K. C., & Newcomer, L. (2016). The brief student–teacher classroom interaction observation: Using dynamic indicators of behaviors in the classroom to predict outcomes and inform practice. *Assessment for Effective Intervention, 42*(1), 32-42. doi:10.1177/1534508416641605

Reveley, E. (2016). Positive behaviour management: A critique of literature. *Journal of Initial Teacher Inquiry, 2*(1), 10-13. doi:10.26021/821

Rezaei, J. (2016). Best-worst multi-criteria decision-making method: Some properties and a linear model. *Omega, 64*, 126-130. doi:10.1016/j.omega.2015.12.001

Richmond, C. (1996). *Behaviour management skill training handbook*. Brisbane, Australia: Queensland Department of Education

Richmond, C. (2007a). Behaviour management hits the road: Confessions of a travelling scholar. Victoria, Australia: ACER.

Richmond, C. (2007b). Teach more, manage less: A minimalist approach to behaviour management. Sydney, Australia: Scholastic.

Rivkin, S. G., & Schiman, J. C. (2015). Instruction time, classroom quality, and academic achievement. *The Economic Journal, 125*(588), 425-448. doi:10.1111/ecoj.12315

Rogers, B. (1998). You know the fair rule: Strategies for making the hard job of discipline and behaviour management in school easier. Melbourne, Victoria: ACER Press.

Rogers, B. (2011). You know the fair rule: Strategies for positive and effective behaviour management and discipline in schools (3rd ed.). Melbourne, Victoria: ACER Press.

Rogers, B. (2015). Classroom behaviour: A practical guide to effective teaching, behaviour management and colleague support. Thousand Oaks, CA: Sage Publications.

Rose, M. F. (2017). Parent involvement and positive behaviour for learning in two Australian schools. (PhD). Western Sydney University, Sydney, Australia.

Rowbotham, M. A. (2010). Teacher perspectives and the psychosocial climate of the classroom in a traditional BSN program. *International Journal of Nursing Education Scholarship, 7*(1), 1-14. doi:10.2202/1548-923X.1808

Rumschlag, K. E. (2017). Teacher burnout: A quantitative analysis of emotional exhaustion, personal accomplishment, and depersonalization. *International Management Review, 13*(1), 22-36. doi:10.1111/bjep.12089

Rutkowski, D., Thompson, G., & Rutkowski, L. (2020). Understanding the Policy Influence of International Large-Scale Assessments in Education. In *Reliability and Validity of International Large-Scale Assessment* (pp. 261-279). Warwick, UK: Springer.

Ryans, D. G., Kounin, J. S., Gump, P. V., & Ryan, J. J. (1961). Explorations in classroom management. *Journal of Teacher Education, 12*(2), 235-246. doi:10.1177/002248716101200222

Saaty, T. L. (2008). Decision making with the analytic hierarchy process. *International Journal of Services Sciences, 1*(1), 83-98. doi:10.1504/IJSSCI.2008.017590

Saisubramanian, S. (2019). *Adaptive modeling for risk-aware decision making.* Paper presented at the Proceedings of the AAAI Conference on Artificial Intelligence, Amherst, Massachusetts.

Saito, K., Dewaele, J. M., Abe, M., & In'nami, Y. (2018). Motivation, emotion, learning experience, and second language comprehensibility development in classroom settings: A cross-sectional and longitudinal study. *Language Learning*, *68*(3), 709-743. doi:10.1111/lang.12297.

Sandilos, L. E., S. E. Rimm-Kaufman, and J. J. Cohen. 2017. "Warmth and Demand: The Relation between Students' Perceptions of the Classroom Environment and Achievement Growth." *ChildDevelopment* 88 (4): 1321–1337. doi:10.1111/cdev.12685.

Sass, D. A., Seal, A. K., & Martin, N. K. (2011). Predicting teacher retention using stress and support variables. *Journal of Educational Administration, 49*(2), 200-215. doi:10.1108/09578231111116734

Schonfeld, I. S., & Bianchi, R. (2016). Burnout and depression: Two entities or one? *Journal of Clinical Psychology, 72*(1), 22-37. doi:10.1002/jclp.22229

Schutz, P. A., & Lee, M. (2014). Teacher emotion, emotional labor and teacher identity. *Utrecht Studies in Language and Communication, 27*(1), 169-186. doi:10.1163/9789401210485_011

Schwab, S. (2018). Attitudes towards inclusive schooling: A study on students', teachers' and parents' attitudes. Leipzig, Germany: Waxmann Verlag Book Depository.

Schwab, S. (2019). Teachers' student-specific self-efficacy in relation to teacher and student variables. *Educational Psychology, 39*(1), 4-18. doi:10.1080/01443410.2018.1516861

Schwandt, T. A. (1994). *Constructivist, interpretivist approaches to human inquiry*. Thousand Oaks, CA: Sage publications.

Scott, S., & Bruce, R. (1995). Decision-making style: The development and assessment of a new measure. *Educational and Psychological Measurement, 55*(5), 818-831. doi:10.1177/0013164495055005017

Scott, T. (2016). Teaching behavior: Managing classrooms through effective instruction. California, CA: Corwin Press.

Seaton, F. S. (2018). Empowering teachers to implement a growth mindset. *Educational Psychology in Practice, 34*(1), 41-57. doi:10.1080/02667363.2017.1382333

Seiz, J., Voss, T., & Kunter, M. (2015). When knowing is not enough--the relevance of teachers' cognitive and emotional resources for classroom management. *Frontline Learning Research, 3*(1), 55-77. doi:10.14786/flr.v3i1.141

Seligman, M. E. (2019). Positive psychology: A personal history. *Annual review of clinical psychology, 15*, 1-23. doi:10.1146/annurev-clinpsy-050718-095653

Sellars, M. (2017). *Reflective practice for teachers*. London, UK: Sage Publications.

Shaban, R. (2015). Theories of clinical judgment and decision-making: A review of the theoretical literature. *Australasian Journal of Paramedicine, 3*(1), 146-153. doi:10.33151/ajp.3.1.308

Shang, C., & You, F. (2018). Process scheduling under ambiguity uncertainty probability distribution. *Computer Aided Chemical Engineering, 43*, 919-924. doi:10.1016/B978-0-444-64235-6.50162-5

Shanks, R., Attard Tonna, M., Krøjgaard, F., Annette Paaske, K., Robson, D., & Bjerkholt, E. (2020). A comparative study of mentoring for new teachers. *Professional Development in Education*, Advanced online publication. doi:10.1080/19415257.2020.1744684

Shernoff, D. J., Csikszentmihalyi, M., Schneider, B., & Shernoff, E. S. (2014). Student engagement in high school classrooms from the perspective of flow theory. In *Applications of Flow in Human Development and Education* (pp. 475-494). New York City: Springer.

Sheryl, A. H., Stephanie, M. P., Herrenkohl, T. I., Toumbourou, J. W., & Catalano, R. F. (2014). Student and school factors associated with school suspension: A multilevel analysis of students in Victoria, Australia and Washington State, United States. *Child Youth Services Review, 36*(1), 187-194. doi:10.1016/j.childyouth.2013.11.022

Showers, B., & Joyce, B. (2002). *Student acheivement through staff development*. London: Routledge.

Silva, P., & Neves, I. P. (2007). Power and control in the classroom: Understanding students' disruptive behaviours. *Pedagogies: An International Journal, 2*(4), 205-231. doi:10.1080/15544800701670014

Silverman, D. (2016). *Qualitative research*. Thousand Oaks, CA: Sage publications.

Simón, C., & Alonso-Tapia, J. (2016). Positive classroom management: Effects of disruption management climate on behaviour and satisfaction with teacher. *Revista de Psicodidáctica, 21*(1), 65-86. doi:10.1387/RevPsicodidact.13202

Simon, H., A. (1991). Bounded rationality and organizational learning. *Organization Science, 2*(1), 125-134. doi:10.1287/orsc.2.1.125

Simon, H., A, Dantzig, G. B., Hogarth, R., Plott, C. R., Raiffa, H., Schelling, T. C., . . . Winter, S. (1987). Decision making and problem solving. *Interfaces, 17*(5), 11-31. doi:10.1093/obo/9780199828340-024

Simon, H., A, & March, J. (1976). *Administrative behavior and organizations*. New York: Free Press.

Simundic, A.-M. (2013). Bias in research. *Biochemia Medica, 23*, 12-15. doi:10.11613/BM.2013.003

Singh, P., Rowan, L., & Allen, J. (2019). Reflection, research and teacher education. *Asia Pacific Journal of Teacher Education, 47*(5), 1-13. doi:10.1080/1359866X.2019.1665300

Skaalvik, E. M., & Skaalvik, S. (2015). Job satisfaction, stress and coping strategies in the teaching profession-what do teachers say? *International Education Studies, 8*(3), 181-192. doi:10.5539/ies.v8n3p181

Skaalvik, E. M., & Skaalvik, S. (2021). Teacher burnout: relations between dimensions of burnout, perceived school context, job satisfaction and motivation for teaching. A longitudinal study. *Teachers and Teaching*, 1-15, Advanced online publication. doi:0.1080/13540602.2021.1913404

Skiba, R. (2014). The failure of zero tolerance. *Reclaiming Children and Youth, 22*(4), 27-33. doi:10.1002/9781118524275.ejdj0104

Slee, R. (1994). Finding a student voice in school reform: Student disaffection, pathologies of disruption and educational control. *International Studies in Sociology of Education, 4*(2), 147-172. doi:10.1080/0962021940040202

Slee, R. (2015). Beyond a psychology of student behaviour. *Emotional and Behavioural Difficulties, 20*(1), 3-19. doi:10.1080/13632752.2014.947100

Slovic, P., Peters, E., Finucane, M. L., & MacGregor, D. G. (2005). Affect, risk, and decision making. *Health Psychology, 24*(4S), 6-15. doi:10.1037/0278-6133.24.4.S35

Smagorinsky, P. (2007). Vygotsky and the social dynamics of classrooms. *English Journal, 97*(2), 61-66. doi:10.2307/30046790

Smidt, W., Kammermeyer, G., Roux, S., Theisen, C., & Weber, C. (2018). Career success of preschool teachers in Germany–the significance of the big five personality traits, locus of control, and occupational self-efficacy. *Early Child Development and Care, 188*(10), 1340-1353. doi:10.1080/03004430.2017.1314275.

Sorensen, T. B., & Robertson, S. L. (2017). The OECD program talis and framing, measuring, and selling quality teacher. In *International handbook of teacher quality and policy* (pp. 117-131). Abingdon, UK: Routledge.

Spadafora, N., Frijters, J. C., Molnar, D. S., & Volk, A. A. (2020). Do little annoyances relate to bullying? The links between personality, attitudes towards classroom incivility, and bullying. *The Educational and Developmental Psychologist, 37*(1), 30-38. doi:10.1017/edp.2019.20.

Spence, S. (1995). Descartes' error: Emotion, reason and the human brain. *British Medical Journal, 310*(6988), 204-222. doi:10.1136/BMJ.310.6988.1213.

Srinivasan, R. 2020. "On Solving Fuzzy Linear Fractional Programming in Material Aspects." *Materials Today: Proceedings* 21: 155–157. doi:10.1016/j.matpr.2019.04.209.

Stahnke, R., & Blömeke, S. (2021). Novice and expert teachers' situation-specific skills regarding classroom management: What do they perceive, interpret and suggest? *Teaching and Teacher Education, 98,* 103243. doi:10.1016/j.tate.2020.103243

Stake, R. E. (2013). *Multiple case study analysis*. New York, NY: Guilford Press.

Stango, C. (2017). The self-reported impact of teacher beliefs about discipline and justice on the implementation of restorative practices. Neumann University, Aston, PA.

Starks, H., and S. Brown Trinidad. 2007. "Choose Your Method: A Comparison of Phenomenology, Discourse Analysis, and Grounded Theory." *Qualitative Health Research* 17 (10): 1372–1380. doi:10.1177/1049732307307031.

Sterrett, W. L., & Imig, S. (2011). Thriving as a new teacher, in a bad economy. *Kappa Delta Pi Record, 47*(2), 68-71. doi:10.1080/00228958.2011.10516564

Stinnett, T. (1971). *Unfinished business of the teaching profession in the 1970's*. Blooomington, Indiana: Phi Delta Kappa

Stoughton, E. H. (2007). "How will I get them to behave?": Pre service teachers reflect on classroom management. *Teaching and Teacher Education, 23*(7), 1024-1037. doi:10.1016/j.tate.2006.05.001

Strader, L. (2018). Creating a positive classroom environment: A case study of elementary teachers' reflections on the work of building student relationships. (Master). Boise State University, Boise, Idaho.

Stroe, S., Sirén, C., Shepherd, D., & Wincent, J. (2020). The dualistic regulatory effect of passion on the relationship between fear of failure and negative affect: Insights from facial expression analysis. *Journal of Business Venturing, 35*(4), 1-20. doi:10.1016/j.jbusvent.2019.105948

Stroope, S., Walker, M. H., & Franzen, A. B. (2017). Stress buffer or identity threat? Negative media portrayal, public and private religious involvement, and mental health in a national sample of us adults. *Society and Mental Health, 7*(2), 85-104. doi:10.1177/215686931352055

Sugai, G., & Horner, R. (2002). The evolution of discipline practices: School-wide positive behavior supports. *Child & Family Behavior Therapy, 24*(1-2), 23-50. doi:10.1300/J019v24n01_03

Sugai, G., & Horner, R. (2006). A promising approach for expanding and sustaining school-wide positive behavior support. *School Psychology Review, 35*(2), 245 -259. doi:10.1177/2332858417711428

Sugai, G., & Horner, R. (2020). Sustaining and scaling positive behavioral interventions and supports: Implementation drivers, outcomes, and considerations. *Exceptional Children, 86*(2), 120-136. doi:10.1177/0014402919855331

Sullivan, A. M., Johnson, B., Conway, R., Owens, L., & Taddeo, C. (2014). Punish them or engage them: Teachers' views on student behaviours in the classroom. *Australian Journal of Teacher Education, 39*(6), 43-56. doi:10.14221/ajte.2014v39n6.6

Sun, J., Schwartz, H. A., Son, Y., Kern, M. L., & Vazire, S. (2020). The language of well-being: Tracking fluctuations in emotion experience through everyday speech. *Journal of Personality and Social Psychology, 118*(2), 364-387. doi:10.1037/pspp0000244

Sun, X., Hendrickx, M. M., Goetz, T., Wubbels, T., & Mainhard, T. (2020). Classroom social environment as student emotions' antecedent: Mediating role of achievement goals. *The Journal of Experimental Education*, 1-12. doi:10.1080/00220973.2020.1724851

Sutcliffe, J., & Whitfield, R. (2018). Classroom-based teaching decisions. In *Teacher Decision-Making in The Classroom* (pp. 8-37). London: Routledge.

Swain-Bradway, J., Pinkney, C., & Flannery, K. B. (2015). Implementing schoolwide positive behavior interventions and supports in high schools: Contextual factors and stages of implementation. *Teaching Exceptional Children, 47*(5), 245-255. doi:10.1177/0040059915580030

Swayn, N. F. (2018). Influences on the exclusion decisions of Queensland state secondary school principals. (PhD). Queensland University of Technology, Brisbane.

Syam, W. P., Rybalcenko, K., Gaio, A., Crabtree, J., & Leach, R. K. (2019). Methodology for the development of in-line optical surface measuring instruments with a case study for additive surface finishing. *Optics and Lasers in Engineering, 121*, 271-288. doi:10.1016/j.optlaseng.2019.04.015

Tanida, Y., Nakayama, M., & Saito, S. (2019). The interaction between temporal grouping and phonotactic chunking in short-term serial order memory for novel verbal sequences. *Memory, 27*(4), 507-518. doi:10.1080/09658211.2018.1532008

Tarman, B. (2016). Discipline or classroom management. *Journal of Learning and Teaching in Digital Age, 1*(2), 37-44. doi:10.1037/0022-. 0663.95

Taylor, E., & Kearney, A. (2018). School discipline and surveillance: Developments in Australia and Aotearoa/New Zealand. In *The Palgrave international handbook of*

school discipline, surveillance, and social control (pp. 87-104). New York, NY: Springer.

Thomas, D. R., Becker, W. C., & Armstrong, M. (1968). Production and elimination of disruptive classroom behavior by systematically varying teachers behaviour. *Journal of Applied Behavior Analysis, 1*(1), 35-45. doi:10.1901/jaba.1968.1-35

Tiwari, A. (2019). The corporal punishment ban in schools: Teachers' attitudes and classroom practices. *Educational Studies, 45*(3), 271-284. doi:10.1080/03055698.2018.1446330

Tom, S. M., Fox, C. R., Trepel, C., & Poldrack, R. A. (2007). The neural basis of loss aversion in decision-making under risk. *Science, 315*(5811), 515-518. doi:10.1126/science.1134239

Torff, B., & Sessions, D. N. (2005). Principals' perceptions of the causes of teacher ineffectiveness. *Journal of Educational Psychology, 97*(4), 530-537. doi:10.1037/0022-0663.97.4.530

Toropova, A., Myrberg, E., & Johansson, S. (2021). Teacher job satisfaction: the importance of school working conditions and teacher characteristics. *Educational Review, 73*(1), 71-97. doi:10.1080/00131911.2019.1705247

Torta, D., De Laurentis, M., Eichin, K. N., von Leupoldt, A., van den Broeke, E., & Vlaeyen, J. (2019). High cognitive load may prevent the development of nociceptive hypersensitivity. *Society for the Improvement of Psychological Science,* 35 (1) 102-123. doi:10.31234/osf.io/zq5sx

Tracy, S. J. (2019). Qualitative research methods: Collecting evidence, crafting analysis, communicating impact. West Sussex, UK: John Wiley & Sons.

Trussell, R. P., Lewis, T. J., & Raynor, C. (2016). The impact of universal teacher practices and function-based behavior interventions on the rates of problem behaviors among at-risk students. *Education and Treatment of Children, 39*(3), 261-282. doi:10.1891/1945-8959.13.2.258

Tversky, A., & Kahneman, D. (1992). Advances in prospect theory: Cumulative representation of uncertainty. *Journal of Risk and Uncertainty, 5*(4), 297-323. doi:10.2307/1907921

Tyng, C. M., H. U. Amin, M. N. Saad, and A. S. Malik. 2017. "The Influences of Emotion on Learning and Memory." *Frontiers in Psychology* 8: 1–22. doi:10.3389/fpsyg.2017.01454

UNESCO. (2004). Global monitoring report education for all. Retrieved from https://en.unesco.org/gem-report/

United States Congress. (2008). *No child left behind act*. United States of America: United States Congress

United States of America Government. (2009). *US Airways flight 1549*. Washington, DC: United States of America Government Publishing

van der Lans, R. M., van de Grift, W. J., & van Veen, K. (2018). Developing an instrument for teacher feedback: Using the rasch model to explore teachers' development of effective teaching strategies and behaviors. *The Journal of Experimental Education, 86*(2), 247-264. doi:10.1080/00220973.2016.1268086

Vesikansa, S., & Honkatukia, P. (2018). School violence as a complex social problem: Trends in managing discipline in Finnish educational policy. In *The Palgrave International Handbook of School Discipline, Surveillance, and Social Control* (pp. 129-148). New York, NY: Springer.

Vlaev, I. (2018). Local choices: Rationality and the contextuality of decision-making. *Brain Sciences, 8*(1), 8-16. doi:10.3390/brainsci8010008

Vogel, S., & Schwabe, L. (2016). Learning and memory under stress: Implications for the classroom. *npj Science of Learning, 1*(1), 1-10. doi:10.1038/npjscilearn.2016.11

Wang, H.-H. (2019). Examining patterns in teacher-student classroom conversations during stem lessons. *Journal for STEM Education Research, 3*(1), 69-90. doi:10.1002/sce.20365

Wang, W.-L., & Kuo, C.-Y. (2019). Relationships among teachers' positive discipline, students' well-being and teachers' effective teaching: A study of special education teachers and adolescent students with learning disabilities in taiwan. *International Journal of Disability, Development and Education, 66*(1), 82-98. doi:10.1080/1034912x.2018.1441978

Wang, M. T., Degol, J. L., Amemiya, J., Parr, A., & Guo, J. (2020). Classroom climate and children's academic and psychological wellbeing: A systematic review and meta-analysis. *Developmental Review, 57,* 100-112. doi:10.1016/j.dr.2020.100912

Wardman, N. P. (2016). 'Productive'and 'disciplined'students for the 'common good': Globalised discourses of neoliberal and neoconservative responsibility in Australian education policy. *Global Studies of Childhood, 6*(3), 311-323. doi:10.1177/2043610616664810

Warmington, P., Gillborn, D., Rollock, N., & Demack, S. (2018). "They can't handle the race agenda": Stakeholders' reflections on race and education policy, 1993–2013. *Educational Review, 70*(4), 409-426. doi:10.1080/00131911.2017.1353482

Warren, L. L. (2018). Behaviors of teacher leaders in the classroom. *Psychology and Behavioral Sciences, 7*(6), 104-108. doi:10.11648/j.pbs.20180706.12

Warwas, J., & Helm, C. (2018). Professional learning communities among vocational school teachers: Profiles and relations with instructional quality. *Teaching and Teacher Education, 73,* 43-55. doi:10.1016/j.tate.2018.03.012

Waters, L. (2017). Visible wellbeing in schools: The powerful role of instructional leadership. *Australian Educational Leader, 39*(1), 3-9. doi:10.1080/17437190701

Watlington, E., Shockley, R., Guglielmino, P., & Felsher, R. (2010). The high cost of leaving: An analysis of the cost of teacher turnover. *Journal of Education Finance, 36*(1), 22-37. doi:10.1353/jef.0.0028

Weare, K. (2015). What works in promoting social and emotional well-being and responding to mental health problems in schools? London, United Kingdom: National Children's Bureau

Weldon, P. (2018). Early career teacher attrition in Australia: Evidence, definition, classification and measurement. *Australian Journal of Education, 62*(1), 61-78. doi:10.1177/0004944117752478

White, D. 2017. "Affect: An Introduction." *Cultural Anthropology* 32 (2): 175–180. doi:10.14506/ca32.2.01

Wilkinson, P. (2019). My go-to things don't work anymore: Teacher perspectives on challenging behaviour and the CPS approach. (Masters). University of Canterbury, New Zealand.

Wilson, T. (2019). An introduction to population projections for Australia. *Australian Population Studies, 3*(1), 40-56. doi:10.37970/aps.v3i1.46

Wittrock, M. C. Association, A. E. R. 1986. *Handbook of Research on Teaching: A Project of the AmericanEducational Research Association*. New York, NY: Macmillan; Collier-Macmillan.

Wolff, C. E., Jarodzka, H., & Boshuizen, H. P. (2021). Classroom management scripts: A theoretical model contrasting expert and novice teachers' knowledge and awareness of classroom events. *Educational Psychology Review, 33*(1), 131-148. doi:10.1007/s10648-020-09542-0

Wolff, C. E., Jarodzka, H., van den Bogert, N., & Boshuizen, H. P. (2016). Teacher vision: Expert and novice teachers' perception of problematic classroom management scenes. *Instructional Science, 44*(3), 243-265. doi:10.1007/s10459-015-9589-x

Wong, D. S., & Kwan, K. Y. (2020). Restorative justice for juvenile offenders in china: Current practices and challenges. *China Journal of Social Work, 13*(2), 121-137. doi:10.14111/j.cnki.zgfx.2006.05.002

Wood, P., & Cajkler, W. (2018). Lesson study: A collaborative approach to scholarship for teaching and learning in higher education. *Journal of Further and Higher Education, 42*(3), 313-326. doi:10.1080/0305764X.2013.834037

Wray, C. (2017). A proposed new psychological model for judgement and decision-making: Integrating the tri-partite model with hemispheric difference. *Leadership & Organization Development Journal, 38*(4), 549-563. doi:10.1108/LODJ-06-2015-0120

Yang, T.-x., Jia, L.-x., Zheng, Q., Allen, R. J., & Ye, Z. (2019). Forward and backward recall of serial actions: Exploring the temporal dynamics of working memory for instruction. *Memory & Cognition, 47*(2), 279-291. doi:10.3758/s13421-018-0865-x

Yardley, S., Teunissen, P. W., & Dornan, T. (2012). Experiential learning: Transforming theory into practice. *Medical Teacher, 34*(2), 161-164. doi:10.3109/0142159X.2012.643264

Yeung, A. S., Barker, K., Tracey, D., & Mooney, M. (2013). School-wide positive behavior for learning: Effects of dual focus on boys' and girls' behavior and motivation for learning. *International Journal of Educational Research, 62*, 1-10. doi:10.1016/j.ijer.2013.06.002

Yinon, H., & Orland-Barak, L. (2017). Career stories of israeli teachers who left teaching: A salutogenic view of teacher attrition. *Teachers and Teaching, 23*(8), 914-927. doi:10.1080/13540602.2017.1361398

Yoe, C. (2019). Principles of risk analysis: Decision making under uncertainty. Boca Raton, FL: CRC press.

Yong-Gang, Y., Xian-Cen, L., Yu-Guang, F., & Ke, Y. (2020). *Discussion on the Characteristics and Implementation Path of Innovative Teaching*. Paper presented at the 5th International Conference on Social Science and Management, Beijing, China.

Zerr, C. L., Berg, J. J., Nelson, S. M., Fishell, A. K., Savalia, N. K., & McDermott, K. B. (2018). Learning efficiency: Identifying individual differences in learning rate and retention in healthy adults. *Psychological Science, 29*(9), 1436-1450. doi:10.1177/0956797618772540

Zimmerman, B. J., & Kitsantas, A. (2014). Comparing students' self-discipline and self-regulation measures and their prediction of academic achievement. *Contemporary Educational Psychology*, *39*(2), 145-155. doi:10.1016/j.cedpsych.2014.03.004

Appendices

Appendix A. Interview Questions from Phase I

Interview questions – pre profile training – Group I and II (Grey scale are probing questions)

1. Do you feel prepared, with the right skill set to manage classroom behaviours? What is that preparedness? How would you describe it, what does it look like, sound like feel like? What is the common language of behaviour management as you understand it?
2. What do you see as important teaching strategies to manage classroom behaviours? How do you know about these? (Observations? Practicums? Lectures or formal training?). If these strategies are seen as important to you, are there other strategies, you use/ know of but see as less important in a classroom or for a teacher to know about? Why? How did you rank these strategies in their order of importance? What determines different teaching strategies – teacher needs or student needs?
3. How important is creating safe supportive classrooms to you? What does a safe supportive classroom look like, sound like, feel like to you? What role do you see the teacher plays in creating this environment? What role do students play in creating this environment?

Interview questions only Group I (to be Classroom Profile trained)

4. You are going to do the classroom profile training in Term 2, How do you think this will change your teaching practice? What are you expecting to get from it?

Interview questions Group I and II

5. After 6 months, how prepared do you feel to manage classroom behaviours? Has your view on that preparedness changed from the start of the research? If there is a change in your views, how would you describe it, what does it look like, sound like feel like? If there is no change, do you agree with your original views on Q1. What changed your views if in fact they have changed at all?
6. In six months, what do you see as important teaching strategies to manage classroom behaviours? Have these changed from the start of the year? If they have not, why do you still agree? If they have changed – what changed for you? Where did you learn about new strategies? What was the most effective way to learn about these strategies? Are there ways you would not want to learn about these again? If these strategies are seen as important are there also strategies, you know of but see as less important? Why? How did you rank a strategies importance?

7. Has your view changed on the importance in creating safe supportive classrooms? If yes, what does a safe supportive classroom look like, sound like, feel like to you now? How did this change for you? Is this change in view better for your teaching practice? How do you know it is better? What role do you see the teacher plays in creating this different environment? What role do students play in creating this different environment? **Group I only –** What role did CP play in supporting or changing your view on safe supportive classrooms?
8. Has your practice changed over the last 6 months in managing classroom behaviours? What has changed? If your practice shifted, when did your practice shift and how did you know it was shifting? **Group I only –** What role if any did CP training play in changing this perception, your practice?

Group I only – Since doing the 3-day CP training do you feel better equipped to manage classrooms behaviours? How do you feel better equipped? What does this look like, sound like, feel like? If you believe that your practice has changed because of CP raining, how do you know your practice has changed as a result of CP training? If your practice has not changed – what do you think would be better use of resources to support teacher development in behaviour management? Do you think CP training could be improved?

Appendix B. Survey Questions from Phase II

1. I learned the majority of my skill to manage unproductive or disruptive classroom behaviours at?
2. Have you had training, or do you have knowledge of Four Dimensions?
3. I can recall Four Dimensions with confidence. Yes, or No?
4. Have you had training in or knowledge of the Essential Skills of Classroom Management (ESCM)?
5. I can recall the Essential Skills of Classroom management (ESCM) with confidence. Yes, or No?
6. The concepts underpinning Four Dimensions were easy to understand. Yes, or No?
7. Which of the Four Dimensions concepts do you apply in your classroom?
8. Do you engage with the ideas of Four Dimensions in your classroom?
9. How does Four Dimensions compare to other classroom management frameworks you have used?
10. My classroom practice has been positively impacted as a result of Four Dimensions training…
11. My classroom practice has been negatively impacted as a result of Four Dimensions training…
12. Would you recommend Four Dimensions to colleagues? Why? Why not?
13. Implementing the concepts of Four Dimensions into your classroom practice was
14. The key message(s) I got from Four Dimensions workshop was…
15. Do you believe the training in Four Dimensions had a positive influence on your classroom practice?
16. What did that impact look like in your classroom, how has your practice changed?
17. Using a scale of 1 to 5 list in order the reasons you enjoy teaching (Do not assign the same number twice).
18. What influences your level of happiness in your job as a teacher?
19. Of the teacher skills listed which are from the Essential Skills of Classroom management. List no more than 6
20. Of the teacher skills listed which are from the Four Dimensions? List no more than 4.

Appendix C. Education Queensland Department approval letter

Queensland Government

Department of Education and Training

9 November 2016

Ms Caroline McCarty
Department of Education
PO Box 783
BOWEN QLD 4805

Dear Ms McCarty

Thank you for your application seeking approval to conduct research in Queensland state schools titled *What difference does professional learning in Classroom Profiling make on teacher's strategies to manage classroom behaviours?* I wish to advise that your application to invite research participants to be involved in your study has been approved. This letter gives you approval to approach potential research participants only.

You may approach principals of the schools nominated in your application and invite them to participate in your research project. In the first instance, please provide principals of these schools with the attached letter which provides important information to help inform their decision about whether they wish to participate in this study. Your approval is conditional upon provision of this letter to each of the school principals you have nominated (you may need to photocopy the attached letter to provide sufficient copies for all principals).

As detailed in the Department's research guidelines the following applies to the study:

- You need to obtain consent from the relevant principals before your research project can commence.
- Principals have the right to decline participation if they consider that the research will cause undue disruption to educational programs in their schools.
- Principals have the right to monitor any research activities conducted in their facilities and can withdraw their support at any time.

This approval has been granted on the basis of the information you have provided in your research proposal and is subject to the conditions detailed below.

- Adherence to the Department's *Terms and Conditions of Approval to Conduct Research* in Departmental sites is required as outlined in the document at: http://education.qld.gov.au/corporate/research/terms_conditions.pdf
- Any changes required by your institution's ethics committee must be submitted to the Department of Education and Training for consideration before you proceed. Conversely, any changes required by the Department must be submitted to your institution's ethics committee to ensure you are not in breach of your ethics approval.
- Any variations to the research proposal as originally submitted, including changes to the research team, changes to data collection, additional research undertaken

Education House
30 Mary Street Brisbane 4000
PO Box 15033 City East
Queensland 4002 Australia
Telephone 07 3034 5929
Website www.dete.qld.gov.au
ABN 76 337 613 647

with the data, or publication based on the data beyond what is normally associated with academic studies, should be submitted to the research officer via email. Significant variations will require the submission of a new application.

- Papers and articles intended for publication that are based on data collected from Queensland state schools and/or Departmental sites should be provided to the Department for comment before release.
- Under no circumstances should any publications disclose the names of individuals or schools.
- You are required to contact the Department if you are contacted by the media about research activities conducted on Departmental sites or if you intend to issue a media release about the study.
- At the conclusion of your study you are required to provide this Office and principals of participating schools with a summary of your research results and any associated published papers or materials in hard copy. You are also requested to submit the documents in electronic format, or provide a link to an online location if possible, to research.stratpol@det.qld.gov.au. **Failure to provide a report on your research will preclude you from undertaking any future research in Queensland state schools.**

Please note that this letter constitutes approval to invite principals and teachers to participate in the research project as outlined in your research application. This approval does not constitute ethics approval or support for the general and commercial use of an intervention or curriculum program, software program or other enterprise that you may be evaluating as part of your research.

Research Services values your input into the research application process and is seeking your responses through the enclosed short feedback form. It is hoped that this feedback will enable Research Services to effectively assess whether its processes are efficiently streamlined, transparent and mutually beneficial to all stakeholders.

Should you require further information on the research application process, please feel free to contact the Principal Research Officer, Strategic Policy and Intergovernmental Relations on (07) 3034 5929. Please quote the file number 550/27/1772 in future correspondence.

I wish your study every success.

Yours sincerely

Dr Angela Ferguson
Director
Research Services
Strategic Policy and Intergovernmental Relations

Appendix D. Introductory letter from DETE

Queensland Government

Department of Education and Training

9 November 2016

Dear Colleague,

Ms Caroline McCarty has the Department's approval to approach your school inviting participation in the *What difference does professional learning in Classroom Profiling make on teacher's strategies to manage classroom behaviours?* research project.

The acceptance of the invitation to participate is entirely voluntary and at your discretion.

This letter provides you with information about the Department's terms and conditions for research conducted on state school sites to inform your decision as to whether or not your school will participate in this research. The Department supports the conduct of quality research in State schools and values the potential contribution of good research in informing educational policy and professional practice. Participation in research, however, may impact on the daily operations of schools, and it is therefore imperative that discretion is used when deciding whether to agree to research involving your school.

As a minimum, the researcher should provide you with the following documentation to inform your decision regarding school research participation:

- an information statement which describes the research, identifies who will be involved (e.g. students, teachers, parents/caregivers) and explains what will be required of these participants;
- the informed consent form for you to sign to indicate your agreement that school staff, students and/or parents/caregivers can be invited to participate in the research;
- a copy of the approval to approach letter from central office or a regional office (where applicable);
- a copy of the final ethical clearance from their institution's Human Research Ethics Committee;
- full copies of any data collection instruments such as surveys, questionnaires, and interview schedules to be used in the study;
- a copy of all current Blue Cards and/or exemption notices from Blue Card Services at www.bluecard.qld.gov.au for any researcher(s) seeking access to children on school sites.

Education House
30 Mary Street Brisbane 4000
PO Box 15033 City East
Queensland 4002 Australia
Telephone 07 3034 5929
Website www.dete.qld.gov.au
ABN 76 337 613 647

Most importantly, participation in any research is voluntary, and you have the right to decline your school's participation in a research project, even if approval to approach your school has been granted at central office or regional level. It is also recommended that you monitor any research activities conducted in your school and you may, if you wish, withdraw your support for the research study at any time without penalty.

At the conclusion of research involving your school, the researchers are required to provide you and participants with a written report summarising the main findings of the study.

Should you require further information on the research application process, please feel free to contact the Principal Research Officer, Strategic Policy and Intergovernmental Relations on (07) 3034 5929. Please quote the file number 550/27/1772 in future correspondence.

Yours sincerely

Dr Angela Ferguson
Director
Research Services
Strategic Policy and Intergovernmental Relations

Appendix E. Monash consent form

MONASH University

CONSENT FORM

Teachers

Project:

What difference does professional learning in Education Queensland's classroom profiling make on teacher's strategies to manage classroom behaviours?

Chief Investigator: Caroline McCarty

I have been asked to take part in the Monash University research project specified above. I have read and understood the Explanatory Statement and I hereby consent to participate in this project.

I consent to the following:	Yes	No
Participating in classroom profiles/observations in classroom settings	☐	☐
Audio recordings during observations	☐	☐
Audio recordings during interviews	☐	☐
Taking part in Classroom profile training (CP)	☐	☐

Name of Participant _____

Participant Signature _____ Date _____

Appendix F. Human Ethics approval Monash

MONASH University
Monash University Human Research Ethics Committee (MUHREC)
Research Office

Human Ethics Certificate of Approval

This is to certify that the project below was considered by the Monash University Human Research Ethics Committee. The Committee was satisfied that the proposal meets the requirements of the *National Statement on Ethical Conduct in Human Research* and has granted approval.

Project Number:	CF16/329 - 2016000152
Project Title:	What difference does professional learning in Education Queensland's classroom profiling make on teacher's strategies to manage classroom behaviours?
Chief Investigator:	Dr Stephen Keast
Approved:	**From:** 12 February 2016 **To:** 12 February 2021

Terms of approval - ***Failure to comply with the terms below is in breach of your approval and the Australian Code for the Responsible Conduct of Research.***

1. The Chief investigator is responsible for ensuring that permission letters are obtained, if relevant, before any data collection can occur at the specified organisation.
2. Approval is only valid whilst you hold a position at Monash University.
3. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by MUHREC.
4. You should notify MUHREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
5. The Explanatory Statement must be on Monash University letterhead and the Monash University complaints clause must include your project number.
6. **Amendments to the approved project (including changes in personnel):** Require the submission of a Request for Amendment form to MUHREC and must not begin without written approval from MUHREC. Substantial variations may require a new application.
7. **Future correspondence:** Please quote the project number and project title above in any further correspondence.
8. **Annual reports:** Continued approval of this project is dependent on the submission of an Annual Report. This is determined by the date of your letter of approval.
9. **Final report:** A Final Report should be provided at the conclusion of the project. MUHREC should be notified if the project is discontinued before the expected date of completion.
10. **Monitoring:** Projects may be subject to an audit or any other form of monitoring by MUHREC at any time.
11. **Retention and storage of data:** The Chief Investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.

Professor Nip Thomson
Chair, MUHREC

cc: Dr Gillian Kidman, Ms Caroline McCarty

Monash University, Room 111, Chancellery Building E
24 Sports Walk, Clayton Campus, Wellington Rd
Clayton VIC 3800, Australia
Telephone: +61 3 9905 5490 Facsimile: +61 3 9905 3831
Email: muhrec@monash.edu http://intranet.monash.edu.au/researchadmin/human/index.php
ABN 12 377 614 012 CRICOS Provider #00008C

Appendix G. Human Ethics Approval USQ

Dear Caroline,

I am pleased to confirm your Human Research Ethics (HRE) application has now been reviewed by the University's Expedited Review process. As your research proposal has been deemed to meet the requirements of the National Statement on Ethical Conduct in Human Research (2007),
ethical approval is granted as follows:

USQ HREC ID: H19REA201
Project title: Four Dimensions and its perceived effect on teacher actions.
Approval date: 26/09/2019
Expiry date: 26/09/2022
USQ HREC status: Approved

The standard conditions of this approval are:
a) responsibly conduct the project strictly in accordance with the proposal submitted and granted ethics approval, including any amendments made to the proposal;.
(b) advise the University (email:ResearchIntegrity@usq.edu.au) immediately of any complaint pertaining to the conduct of the research or any other issues in relation to the project which may warrant review of the ethical approval of the project;
(c) promptly report any adverse events or unexpected outcomes to the University (email: ResearchIntegrity@usq.edu.au) and take prompt action to deal with any unexpected risks;
(d) make submission for any amendments to the project and obtain approval prior to implementing such changes;
(e) provide a progress 'milestone report' when requested and at least for every year of approval.
(f) provide a final 'milestone report' when the project is complete;
(g) promptly advise the University if the project has been discontinued, using a final 'milestone report'.
The additional conditionals of approval for this project are:
(a) Nil.
Please note that failure to comply with the conditions of this approval or requirements of the Australian Code for the Responsible Conduct of Research, 2018, and the National Statement on Ethical Conduct in Human Research, 2007 may result in withdrawal of approval for the project.
Congratulations on your ethical approval! Wishing you all the best for success!
If you have any questions or concerns, please don't hesitate to make contact with an Ethics Officer.

Kind regards
Human Research Ethics
University of Southern Queensland/ Toowoomba – Queensland – 4350 – Australia/ Phone: (07) 4631 2690 / Email: human.ethics@usq.edu.au

Appendix H. Essential Skills of Classroom Management

As presented on the Department of Education and Training website 2018. In 2021 they were unable to be found on the Department of Education website.

1. Establishing expectations – Making rules.
2. Giving instructions – Telling students what to do.
3. Waiting and scanning – Stopping to assess what is happening.
4. Cueing with parallel acknowledgement – Praising a particular student to prompt others.
5. Body language encouraging – Smiling, nodding, gesturing and moving nearby.
6. Descriptive encouraging – Praise describing behaviour.
7. Selective attending – Not obviously reacting to certain behaviours.
8. Redirecting to the learning – Prompting on-task behaviour.
9. Giving a choice – Describing the student's options and likely consequences of their behaviour.
10. Following through – Doing what you said you would.

Appendix I. Observation Sheet Instructional context

INSTRUCTIONAL CONTEXT

Subject: _____ Students: B _____ G _____ Total_____ NB _____		Teacher: _____ Year Level: _____ Date: _____ Observation Start: _____ Finish: _____			
Roll marking ☐ **Student entry** Y NP		independent	teacher instruction	with	without appropriate behaviour
Other ☐ **Greeting** Y N NP		whole group	individual	welcoming relaxed interaction	
Behaviour expectations for learning	seating plan	Y			N N/A
	expectations displayed	PBS PBL PB4L PERMAH RP RTC / other school-wide process / own / other			N
	consequences displayed	positive and / or negative			N
	tangible for positive behaviour				N
	tangible for negative behaviour				N
	behaviour expectations referred to	PROACTIVE		REACTIVE	
management of **unproductive** behaviours *(voice)*		calm	approachable	firm	measured N/A

Curriculum intent			1.	2.	3.	4.
Instructional design	activity name					
Activity introduced			:	:	:	:
	verbal	what				
		how				
		why				
	written	learning goal				
		success criteria				
Students participating			:	:	:	:
curriculum intent restated/ re-clarified						
refer to curriculum intent						
activate prior learning			Y N NA	Y N	Y N	Y N
learning routines evident			Y N	Y N	Y N	Y N
time encouragement given			Y N	Y N	Y N	Y N
tangible encouragement given			Y N	Y N	Y N	Y N
mainly teacher instructed			Y N	Y N	Y N	Y N
Activity finish			:	:	:	:
Activity summary	**C**urriculum and/or **B**ehaviour		C B neither NA	C B neither NA	C B neither NA	C B neither NA

teacher with-it-ness	high---------- low
teacher movement	high ---------- low
teacher / assistant / aide / coach : engagement Y N	high ---------- low

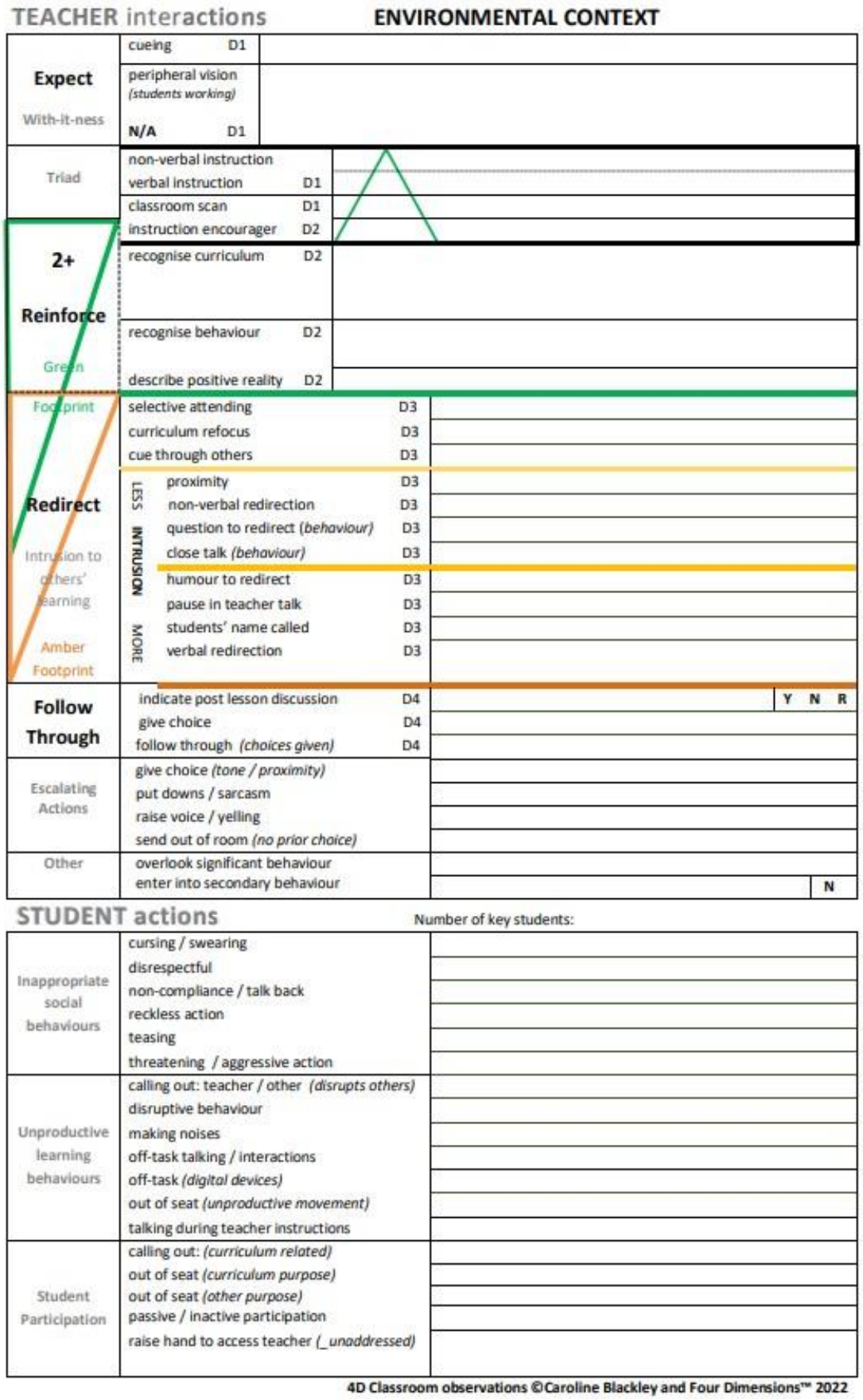
Curriculum interactions	Boys	Girls	Non-binary	Mixed
teacher initiaited Individual				
Group				

Late student entry	teacher interaction:	appropriate entry	disruptive entry
	no teacher interaction:	appropriate entry	disruptive entry

Student exit: during lesson	teacher instruction	independent	walk out
Student exit: lesson end Y N NP	independent	teacher instruction	with without appropriate behaviour

B:Boy G:Girl NB Non-binary B/G/NBgr:Relevant group Gr:Mixed group W:Whole class U:Unknown

Appendix J. Four Dimensions Observation Sheet Environmental context



TEACHER interactions | **ENVIRONMENTAL CONTEXT**

Expect With-it-ness	cueing D1		
	peripheral vision *(students working)* **N/A** D1		
Triad	non-verbal instruction		
	verbal instruction D1		
	classroom scan D1		
	instruction encourager D2		
2+ Reinforce Green Footprint	recognise curriculum D2		
	recognise behaviour D2		
	describe positive reality D2		
Redirect Intrusion to others' learning Amber Footprint	selective attending D3		
	curriculum refocus D3		
	cue through others D3		
	LESS INTRUSION MORE proximity D3		
	non-verbal redirection D3		
	question to redirect *(behaviour)* D3		
	close talk *(behaviour)* D3		
	humour to redirect D3		
	pause in teacher talk D3		
	students' name called D3		
	verbal redirection D3		
Follow Through	indicate post lesson discussion D4		Y N R
	give choice D4		
	follow through *(choices given)* D4		
Escalating Actions	give choice *(tone / proximity)*		
	put downs / sarcasm		
	raise voice / yelling		
	send out of room *(no prior choice)*		
Other	overlook significant behaviour		
	enter into secondary behaviour		N

STUDENT actions Number of key students:

Inappropriate social behaviours	cursing / swearing	
	disrespectful	
	non-compliance / talk back	
	reckless action	
	teasing	
	threatening / aggressive action	
Unproductive learning behaviours	calling out: teacher / other *(disrupts others)*	
	disruptive behaviour	
	making noises	
	off-task talking / interactions	
	off-task *(digital devices)*	
	out of seat *(unproductive movement)*	
	talking during teacher instructions	
Student Participation	calling out: *(curriculum related)*	
	out of seat *(curriculum purpose)*	
	out of seat *(other purpose)*	
	passive / inactive participation	
	raise hand to access teacher *(_unaddressed)*	

4D Classroom observations ©Caroline Blackley and Four Dimensions™ 2022

Appendix K Front cover of Four Dimensions classroom observation sheet

Create TIME AND SPACE

Four Dimensions Classroom observation

Dimension 1: Expect. Clarity of purpose. Curriculum is our core business.

Teachers with positive classroom environments refer to expectations regularly. Students learn expectations best through regular reminders, recognition and reinforcement. Establish routines around both curriculum and behaviour and teach explicitly. Maximum 2 – 5 global expectations. Keep recognition and reinforcement **short, specific and simple**. Choose to fill your learning space with WHAT you WANT to see and HOW it will be demonstrated. Build meaningful relationships through creating opportunities, maximise on these opportunities and reinforce your expectations. Be **Authentic** and find actions that fit your teaching style, build your own **MOJO**

Expect

Dimension 2: Reinforce. Recognise those meeting expectations, productive interactions.

Relationships are critical in how we build classroom environments. Use of positive classroom language creates opportunity to build positive classroom **connections**. Use opportunities to interact with students meeting expectations through: Recognition; Describing Positive Reality and Instruction Encouragers. Connections are the basis of knowing your students, giving them a strong sense of belonging and developing Mob Buy-in. **Mob buy in** describes the three possible groups of students in every learning space. Students learn from teachers they like, but even more so, in environments where they feel safe and supported, environments that are managed to ensure curriculum is the key focus. Ensure you recognise the students who are always doing the right thing, reinforce those distracted and have time and space for the few who need it. Focus on the positives occurring in your classroom first, then redirect the few. Recognise the students meeting your expectations. Look for the Good First – every time.

Expect: Reinforce

Dimension 3: Redirect. Reduce level of intrusion to others' learning, flow of curriculum.

Redirection can take the form of reminding students about EXPECTATIONS and REINFORCING productive behaviours through less intrusive actions such as non-verbal redirections, use of proximity, and curriculum refocus. Redirections occur when students are choosing unproductive classroom behaviours. Intrusive redirections such as pause in talk, call student name and verbal redirection are certainly appropriate for issues of safety or urgency or when, as a teacher, you choose to engage in this manner. They should not be delivered through frustration or as a default/ habitual teaching action to manage regular classroom behaviours. When redirections are used rarely, they have a higher effect rate on behaviours. Use less intrusive forms of redirection or return to Green zone teacher actions.

Expect: Reinforce: Reduce (the public nature).

Dimension 4: Follow Through. Meaningful with calm delivery. Increased effectiveness.

Certainty is what counts. Students must know you will follow through 100% of the time and there are no excuses here. Severity and Celerity (the immediacy of response), of the Follow Through is determined by you. You make the decisions, you control the classroom environment through the words and actions you choose. Mountain versus Mole Hill mind set. You plan when climbing the mountain because the effort is worth the result, do the same in class for Follow Through. Plan around your Follow Through.

Certainty: Severity: Celerity

Four Dimensions Classroom observations: FLOW of teaching and learning

Decision-making takes up a lot of teacher time and energy. Decisions should be based on a "curriculum first" response in every conversation. To do this 4D provides a simple balance model between Green and Amber zones to guide teacher responses in classroom decision-making. Green zone is Expect and Reinforce. Amber zone is Redirect and Follow through.

Green footprint first – every interaction.

Research shows teachers who spend more energy (approximately 80%) using **the language** of D1 and D2, have fewer reports of frustration and emotional exhaustion, find curriculum delivery more successful and notice the learning that is consistently taking place in the classroom (McCarty 2021). D3 actions include consideration of interruption to the FLOW of curriculum.

The 4D classroom observation guides the use of each of the Four Dimensions during classroom practice with a clearly defined process to support teacher decision-making. When teachers have the time and space to do the work of teaching, everyone benefits. It is an observational tool used in a confidential, non-judgemental coaching process, to collect the frequency of teacher-student interactions during a 30 to 35-minute classroom observation.

Welcome to Four Dimensions™

www.carolineblackley.com

admin@carolineblackley.com

Appendix L Back cover of Four Dimensions classroom observation sheet

FOCUS ✚ ACTIONS = ENVIRONMENT

Choose actions to change classroom culture

I ASK

Expectations stated and referred to

Fill your teaching space with PROACTIVE referrals to your expectations. This action is around consistent reminders before students are required to demonstrate the expected behaviour.

If you are tired of asking students, remember it is a reflection of human behaviour, not your teaching. An example in society is the revenue raised from adults exceeding the speed limit when driving. As adults we know the rules, not to speed on the roads, dislike the consequence of speeding tickets, but continue to do so. It is human nature to push boundaries and step outside set expectations.

Do not wait for behaviours to occur to state classroom expectations. State them, and refer to them regularly. CUE students in EXPECTATIONS, then RECOGNISE those meeting them.

REACTIVE referrals to expectations will also act to fill your teaching space with the behaviours you want to see.

Get in early with PROACTIVE referrals as often as you can. Choose

Soft summer rain
over
Hail on a tin roof

I LOOK

Peripheral Vision

Know what is happening around you. Move and look.

You cannot respond if you do not see what is happening. This action is about awareness, with-it-ness and students knowing that you are constantly watching for opportunities to catch them doing the right thing. It is effective when used as a **proactive action** involving the teacher visually checking the learning space on a regular basis, with consistency.

Meerkat*

You want students to KNOW you are checking in with them. This action is based in the Principles of the "Hawthorne Effect": altered behaviour occurs in response to the awareness of being observed while working (McCambridge 2014).

An action that provides **opportunity** to RECOGNISE students doing the right thing, and in doing so creates time and space to work with those who need your attention regularly.

I FIND & INTERACT

'2+ bounce' and the Triad

2+ is about interacting with students who are meeting expectations. Reinforcing behaviours for the likelihood of increased repetition of those behaviours. Teachers choose to reinforce student behaviours through teacher actions of *recognise, instruction encourager* and *describe positive reality*.

2+bounce is a concept that ensures our attention is focussed on the curriculum and the recognition of appropriate student behaviours first. When delivered with high frequency we 'bounce' around the room to interact with multiple students to change student behaviours.

Recognising expectations met **2+**

Triad: Gaining student attention through routines

Routines are built through using 2+ in the Triad. The Triad is delivered through 3 steps that establish a routine over time. It begins with the teacher gaining student attention through a non-verbal or an verbal instruction. Then a scan of the environment and completed through acknowledging students meeting those expectations stated.

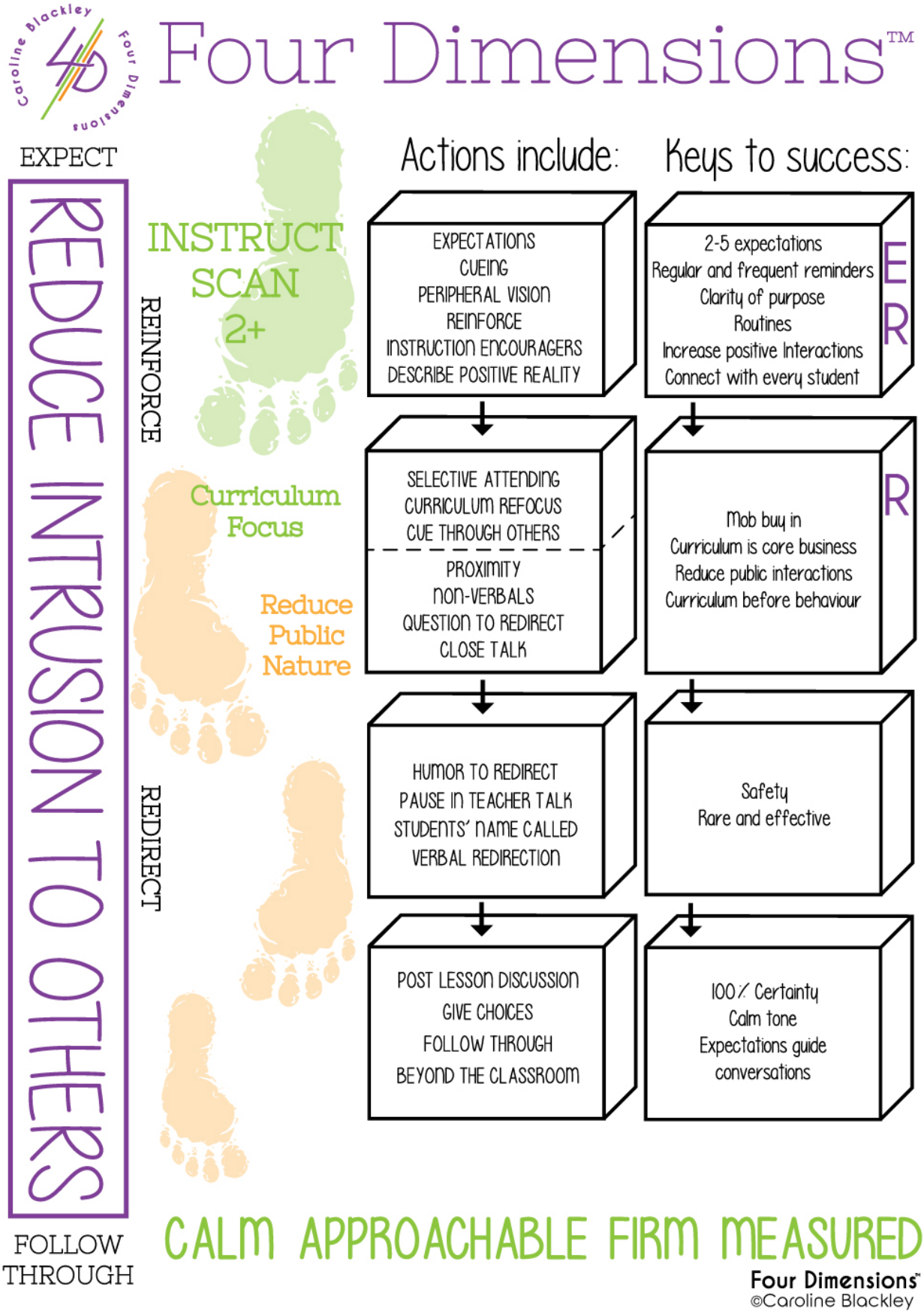
A **Classroom Scan** is 1 - 3 seconds with 4 purposes:

1. Allow take-up-time by students.
2. Provide processing time for verbal or non-verbal instruction to be followed.
3. Teacher response time to attend to unproductive behaviours that may escalate.
4. Search for students meeting expectations.

5 teacher actions of high frequency to support a focus on curriculum first

Cueing	Reinforce & Recognise	Instruction encourager	Describe positive reality	Curriculum refocus
High frequency This action is a deliberate and proactive, a verbal or non-verbal cue. It is used to prompt students' productive behaviour based on your classroom expectations. From raising your arm to signal raised hands to answer questions to verbally stating "move quietly to your benches". This action can occur anytime while teaching and is a PROACTIVE referral to expectations.	**Personalise and Individualise** This action is about catching students doing the right thing. RECOGNISING productive student behaviours. Focus is to create a positive classroom environment. Reminding individual students how they contribute to that environment. When individualised and personalised students know why they are succeeding and how to repeat the behaviour.	**Routines** Catching students doing the right thing and verbalising it, to encourage quick response from students to classroom routines. Follows an instruction to gain student attention through the TRIAD*. It is about teacher expectations and routines. There is a focus on productive behaviours through positive classroom language.	**Recognise** This action describes the appropriate observable behaviours of students, at any time. It should be delivered often during teaching and learning. Opportunity to RECOGNISE student productive behaviours and active participation. Increasing Mob Buy-In, is about creating the environment we want students to be learning in. **Own the narrative**. Opportunity for positive classroom language.	**Set students up for success** Using the curriculum to redirect unproductive behaviour to the learning task. Redirections can fill classrooms with curriculum language or behaviour language. 4D has a focus on curriculum actions. You choose your narrative. This action should never be used to shame or draw attention to unproductive student actions. Positive classroom language with a focus on curriculum not behaviour

Appendix M. Own the Narrative teacher handout.



Appendix N. Classroom Profile Training Flow Sheet 2015

CLASSROOM PROFILING LESSON FLOW SHEET

Lesson: _____ B _____ No. of kids: G _____ Total _____	Teacher: _____ Year: _____ Date: _____ **Time:** Start: _____ Finish: _____			
student entry Y / NA	teacher instruction / in own time	with / without appropriate behaviour		
late students Y / N	response:	negative student outcomes / positive student outcomes		
	no response:	negative student outcomes / positive student outcomes		
Greeting Y / N /NA	whole group / individual	other friendly, relaxed discussion		
activity details ESCM 1 name	1.	2.	3.	4.
instruction time	Start: _____ Finish: _____	Start: _____ Finish: _____	Start: _____ Finish: _____	Start: _____ Finish: _____
instructions clear	Y N	Y N	Y N	Y N
explicit ESCM 2 curriculum expectations	what / why / how	what / why / how	what / why / how	what / why / how
ESCM 1 behaviour	what / why / how	what / why / how	what / why / how	what / why / how
strategies for transition	0 → 1	1 → 2	2 → 3	3 → 4
previous lesson reviewed	Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA
students working from routine	Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA
use of time encouragers	Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA
use of other encouragers	Y / N / NA	Y / N / NA	Y / N / NA	Y / N / NA
summation	at end of activity / period	at end of activity / period	at end of activity / period	at end of activity / period
Curriculum: Behaviour:	re: curriculum / behaviour / neither	re: curriculum / behaviour / neither	re: curriculum / behaviour / neither	re: curriculum / behaviour / neither

move about to students working individually or in groups	teacher initiated	student initiated	student moves to teacher
BOY			
MTD ☐ GIRL			
GROUP			

teacher movement about the classroom	low ——— high			
assistant / aide / parent / other teacher	Y / N engaged purposefully	low ——— medium ——— high		
use of voice / tone when managing behaviour	calm firm friendly measured			
post lesson / re-entry discussions for behaviour	yes no unnecessary NA			
enter secondary behaviour	yes no Comments:			
electronic media used by students (eg: students listening to ipods/sending texts)	yes no comments:			

BEHAVIOUR EXPECTATIONS ESCM 1				**SWPBS school** Y / N
rules clear	yes			no
rules displayed	yes	SWPBS / School / Own / Other		no
rules referred to	yes	unnecessary	*proactive / reactive*	no
consequences displayed	yes		*positive / negative*	no
consequence for positive behaviour applied	yes			no
consequence for negative behaviour applied	yes	unnecessary		no

student exit during lesson Y / N	in own time	teacher instruction	
student exit end of lesson Y / NA	teacher instruction / in own time	with / without appropriate behaviour	
parting formalities Y / N / NA	whole group / individual	other friendly, relaxed discussion	

Appendix O. Classroom Profile Training Frequency Sheet 2015

CLASSROOM PROFILING **LESSON FREQUENCY** SHEET

TEACHER STRATEGIES			Positive Feedback *Behaviour*	FREQUENCY	Positive Feedback *Curriculum*
Positive Feedback *(verbal & non-verbal)*	individually	ESCM 5			
	whole class				
	group				
Instruction Giving ESCM 2	non-verbal directional action eg. clapping				
	oral directional phrase eg. 'Stop Look Listen'				
	waiting and scanning / take up time	ESCM 3			
Positive Supportive Strategies	TOP 5: descriptive encouraging	ESCM 6			
	TOP 5: cueing /parallel acknowledgement	ESCM 4			
	TOP 5: description of reality				
	TOP 5: verbal redirection to learning	ESCM 8			
	TOP 5: individual close talk				
	expectations clarified / restated (curriculum)				
	indicate post lesson discussion				
	move student in room				
	peripheral vision while working				
	and time occurred				
	selective attending/tactical ignore.	ESCM 7			
Non-verbal Redirecting to Learning	LEAST TO MOST INTRUSIVE: non-verbal redirection	ESCM 8			
	LEAST TO MOST INTRUSIVE: proximity	ESCM 8			
	LEAST TO MOST INTRUSIVE: pause in talk	ESCM 8			
Oral Redirections	questioning to redirect				
	humour to manage behaviour				
	call student's name				
	redirection given				
Enforcing Expectations	give choice / warning	ESCM 9			
	follow through	ESCM 10			
	TIME-OUT in/ out / other / room				
Emotive Strategies	give choices but not follow through				
	give choice (tone / proximity)				
	overlook very inappropriate behaviour				
	put downs / sarcasm				
	raise voice / yelling				
	send to time out without choice / warning				
	you / why statements				
STUDENT BEHAVIOURS					
Verbal & Non-Verbal Aggression	cursing / swearing				
	inappropriate action (aggression)				
	talking back to teacher				
	teasing				
	threatening				
Disruptive Behaviour	calling out – other				
	calling out – teacher				
	inappropriate action (disruptive)				
	making noises				
	moving about / getting out of seat				
	off-task talking / behaviours				
	talking while the teacher is talking				
Positive Student Behaviours	raise hand to talk or non-verbal action *addressed by adult*				
	non-disruptive questioning				
	peer assistance				
	move about room without disruption				