Learning to move, moving to learn:

Exploring junior primary teachers’ use of movement in their classroom practice

by

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A dissertation submitted in partial fulfilment of the requirements of the degree Master of Education (Professional Studies - Research)

March, 2017
Declaration: This work has not been previously submitted for a degree or diploma in any University. To the best of my knowledge and belief, the dissertation contains no material previously published or written by another person except where due reference is made in the dissertation itself.

Signed:

Name: Heather Manning
Acknowledgements

I would like to thank Phil, who has loved and supported me throughout this exciting and challenging stage of my career. To my daughters, Holly and Sophie, thank you for continually reminding me of the most important reasons for educational change.

My supervisors at Griffith University, Dr Loraine McKay and Dr Steve Hay, deserve the highest praise for their open, flexible and enthusiastic support of my research from proposal to submission. My greatest thanks to you both for the gifts you have shared with me.
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Abbreviations

ACARA - Australian Curriculum and Reporting Authority

C2C - Curriculum into the Classroom

CHAT - Cultural-Historical Activity Theory

EC - Embodied Cognition

ECE – Early Childhood Education

KLA - Key Learning Area

MI – Multiple Intelligences

OT – Occupational Therapy

PD – Professional Development

PMP – Perceptual Motor Program

R2L - Reading to Learn

SAS - Stillness, Attention, Silence

SI – Sensory Integration
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Abstract

Movement-based curricular tasks enrich learning by using sensorimotor experiences to support children’s understanding of abstract concepts. Technological advances have yielded empirical evidence of the connection between movement and cognitive function with the affective benefits of participation in movement noted as enhanced engagement, social competency and the opportunity for self-expression.

This evidence is reflected in the holistic view of child development employed in early childhood settings. However the transition to primary school signals a considerable change in the way movement is viewed and used for learning. In recent years, curriculum reform and an emphasis on high-stakes testing has led to the perpetuation of traditional transmission pedagogies in many junior primary classrooms in Queensland. Routine practices such as whole-class direct instruction provide few movement opportunities for the young students who they serve. While policies have implications for classroom practice, the teachers who enact them are acknowledged as the key stakeholders in the decision-making process that facilitates (or avoids) movement activities for their students.

This study explored the factors that influence three Queensland junior primary teachers’ use of movement in their classroom practice. Focused observation and semi-structured interviews were employed in a single-site case study research design. Engeström’s Cultural-Historical Activity Theory (CHAT) was applied to frame the exploration of teachers’ beliefs, practices and the contextual factors that influenced the use of movement in their classrooms. The nodes of the CHAT framework were embedded in the research questions, and data analysis explored these nodes separately before focusing on their interrelationship in the context of the problem.

Key findings suggested an absence of clear curriculum directives about how movement should be used in their classroom practice, so the junior primary teachers’ knowledge, skills and experience were the key factors influencing the self-initiated practices they employed. While the findings of this small scale study must be viewed tentatively, they will be of interest to teachers, curriculum planners, policy writers and the current literature on the use of movement in the classroom curriculum.
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Chapter One: Introduction

This study seeks to explore the factors that influence junior primary teachers’ decisions to include movement as part of their classroom practice in Queensland. The purpose of this single-site case study is to observe and discuss, with a sample of teachers, their classroom practice involving movement, to identify and explore the relationship between the factors that contribute to their decision making process. It was anticipated that the knowledge generated from this inquiry would support further research in this emergent field of study, and be of interest to junior primary teachers, curriculum management in both schools and pre-service teaching programs, and policy writers. The research employed a qualitative observation and interview format, applying Cultural-Historical Activity Theory as a framework to consider the teachers’ actions with reference to the context in which they occur. The participants in this study were three junior primary classroom teachers purposefully selected from a middle SES urban primary school.

This chapter begins with an overview of the background that framed the study and the context in which the research problem was situated. The statement of the research problem is followed by the research questions and an outline of the research design. The positioning of the researcher, the rationale and significance and a list of definitions of key terms used in this study are located at the end of this chapter.

Background

There exists an overwhelming body of evidence that links movement to various stages of the learning process (Bartholemew & Jowers, 2011; Call & Featherstone, 2010; Erickson, Hillman & Kramer, 2015; Medina, 2010; Ratey, 2008). From initial concept or skill acquisition, to improved memory/retrieval and the affective elements of motivation and morale, movement has the capacity to strengthen and enrich the learning experience (Jensen, 2005). Direct benefits to learning can occur through participation in movement itself, and indirect benefits, where movement initiates or stimulates improved executive function or affective outcomes, can result from participation in movement (Lengel & Kuczala, 2010).

While technological advances have yielded empirical evidence that movement is even more integral to the process of learning than was previously thought (Middleton & Strick, 2000; Ratey, 2008), this is yet to be reflected in curricular
provisions in primary school settings. Despite customary use of movement in preschool settings as an essential component of developmentally appropriate practice (Brewer, 2007), transition to the primary school brings systemic and contextual changes with implications for the expectations of young children’s movement and learning (Petriwskyj, O’Gorman & Turunen, 2013).

Examination of the historical origins of the primary school reveals some of the ideologies and subsequent practices from past eras are still evident in contemporary education settings (Nagel & Scholes, 2016). Depaepe, (1997) contends that the primary school is “an organizational form introduced for reasons not particularly educational, and it (has) persisted chiefly because of the order and efficiency to which it gave rise” (p. 208). This order and efficiency aligns with aims of economic productivity, bolstered by the use of standardised testing to measure achievement (Bousfield & Ragusa, 2014). The impact for movement is from both within and beyond the school setting, compounded by the tendency for physical development processes to be taken for granted (Duchesne & McMaugh, 2016) and viewed as being less important than cognitive, emotional or social development (Nagel & Scholes, 2016).

The Queensland Context

Over the past five years, the Queensland school system has experienced significant reform. The transition to a state-based interpretation of a national Australian Curriculum in 2012 resulted in significant changes in teaching practices, with the development of Curriculum into the Classroom (C2C) resources implemented in schools. The C2C resources were intended to assist teachers during this period of rapid change by providing models to follow, however “resulted in whole class teaching and the use of direct instruction” (DET, 2015, p. 4) which is particularly unsuited to the learning needs of children aged 4 ½ to 8 comprising the junior primary classes of Prep and Years 1 and 2. This curriculum, coupled with the high-stakes testing that measures learning outcomes, has led to narrowed educational goals with subsequent effects on teachers’ practices. These changes have coincided with the downscaling of state-based initiatives to increase movement in schools, for example the Smart Moves program (30 minutes of daily physical activity) citing “curriculum pressure … as a significant barrier” (DETE, 2012, p. 2) to their implementation.
In 2015 the *Age-appropriate pedagogies* project was launched in response to the increased pressure to introduce formal, content-focused instructional approaches to children at a younger age. The *Foundation Paper* on which the program is based notes that these approaches have resulted from a misinterpretation of *Australian Curriculum* (DET, 2015), particularly in the way C2C resources had been applied by the teachers of young students. They make the distinction between the curriculum (what is taught) and the pedagogy (how it is taught) and note that in the area of pedagogy, change is needed to better meet the needs of students in the junior primary years.

Ultimately, the enactment of curriculum and pedagogical decisions lie with the teacher, who operates with a social context of the individual school setting (Luke, 2010). Therefore the current investigation is directed towards the teacher, and is intended to explore their decision making processes within the complex context of the current Queensland state school educational climate.

**Statement of the Problem**

Historical and social implications have contributed to the low regard of the role of movement in the learning process and school setting. Recent curriculum reform and standardised testing has reinforced a narrow view of achievement that has subsequently influenced teaching practices in junior primary classrooms in Queensland. The instructional practices resulting from the promoted curricular materials have been recognised as inappropriate, with physically active learning (involving movement) recommended as a key component of ideal pedagogy for this age group.

Presently, little is known about the classroom teachers’ role in the process of including movement in their practice. As the teacher is the primary person to deliver curriculum pedagogy in their classroom, including any changes, it is necessary to understand their experience in order to design and deliver effective curricular resources and professional development to support them in this pursuit. This study employs *Cultural-Historical Activity Theory* (CHAT) to explore the mediating factors in the teachers’ decision-making process in their use of movement in their classroom practice.
Research Questions

To understand the complexities of the teachers’ role as curriculum decision maker in the context of their classroom, the main research question of the current study asks:

*What factors influence teachers’ decisions to include movement as part of their classroom practice in junior primary classrooms?*

To provide further focus four research sub questions were structured and utilised in data collection to reflect the nodes of the CHAT framework that drive the inquiry:

1. What factors from within the individual teacher influence their use of movement in their classroom practice?
2. Which curricular outcomes do teachers use movement to achieve, and what pedagogical and physical tools do the teachers use in this process?
3. How do rules and the school community influence teachers’ use of movement in their classroom practice?
4. How is the division of labour applied in movement-based activities?

Research Design

This study employed a single-site case study design, utilising qualitative research methods of observation followed by semi-structured interviews. The multi-phase process was intended to allow the researcher to clarify understandings with the participants and triangulate the results (Stake, 1995). The theoretical framework of Cultural-Historical Activity Theory (CHAT) was applied to guide the research questions, data collection tools and analysis process, as explained in Chapter Three.

The position of the researcher

I currently take on several roles, as a postgraduate research student, sessional tutor in a pre-service primary teacher education program and as a private provider of tuition to primary-aged students experiencing learning difficulties. I have experience as a junior primary classroom teacher, at several interstate, non-government schools however this occurred prior to the implementation of the national curriculum. My keen interest in movement is noted as relevant, as I have a theoretical and practical background in dance. This combined insight into both the practical and theoretical aspects of the classroom teacher’s role, provided a unique perspective that should be
viewed as advantageous in the research process (Warren & Karner, 2010). The theoretical framework applied (CHAT) is epistemologically consistent with my own view of activity as a social process.

**Rationale and Significance**

This project explored movement in the junior primary classroom from the perspective of the teacher, acknowledging that one of the key obligations of their role is to meet curricular objectives. The relationship between the classroom teacher (the subject) and the objective of curricular and other goals (the object) is the dialectic relationship that forms the basis of this study, hence the application of CHAT in the research design.

Previous studies have under-acknowledged the role of the mediating factors included in the CHAT model (tools, rules, community of practice and division of labour-the nodes). Rather, they have viewed the solution to the lack of movement in the primary classroom as a problem that can be solved using a simplistic ‘add-on’ approach. Unsurprisingly, these studies have failed to show that such an approach delivers sustained changes (Hunter et al., 2014; Lai, et al. 2014). Furthermore, ineffective programs, as Stephenson, Carter and Wheldall (2007) contend, “take time, materials and resources away from programs that are likely to be effective” (p. 16) and that this may have a negative impact on students already struggling to meet year level academic expectations.

Conversely, Eather, Morgan and Lubans (2013) showed that social support from teachers was an effective mediator in changing the behaviour of students to increase physical activity levels, measured in terms of quantitative outcomes, at least. The authors’ conclusion is compelling, given the context of this project: “classroom teachers play a key role in influencing physical activity behaviour outcomes in children” (p. 1). This recognition of the importance of the teachers’ role underlies the key research question - *What factors influence teachers’ decisions to include movement as part of their classroom practice in junior primary classrooms?*

**Limitations of the study**

The single-site aspect of the design, limited to three participants presented the opportunity to study the teachers’ activity in depth and detail using multiple collection instruments. This was appropriate given the research questions and
Theoretical framework applied. The in-person nature of the study supported the examination of all the dimensions of movement in three classrooms - programmed and non-programmed. While the study did not examine a wide cross section of data on movement in the classroom, the emphasis was rather on the richness of the data gained from observations and teacher comments on a range of affordances and constraints. Further, the study was intended to provide a preliminary examination of the issues using the CHAT model in the role of a pilot study. The consequence of this is that the sample size is small and insufficient to make general statements about the findings.

Practical limitations that influenced the study included the dual phases of data collection that were limited to the lessons that could be viewed at the teachers’ invitation and discretion, and the influence on the teacher and students’ behaviour of the researcher’s presence in the classroom. The data collection methods involved researcher interpretation in the observation and interview process, so this bias is acknowledged as inherent in the research design.

**Definitions**

A number of acronyms are used throughout this thesis. In addition, there are particular terms used that have a specific meaning in this context. These acronyms and terms are noted in this section.

- **Australian Curriculum**: National achievement standards and content provided for implementation in Australian schools from Foundation (in Queensland, Prep)-Year 10
- **CHAT**: An acronym for Cultural-Historical Activity Theory
- **ECE**: An acronym for Early Childhood Education, a field of study concerned with children’s learning and development from birth to 8-years.
- **Junior Primary**: The first three years of primary schooling, in Queensland this is Prep, Year 1 or Year 2.
- **Movement**: The use of the body for any learning purpose in a classroom setting, using the gross and fine motor muscle groups to some extent.
<table>
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<th>Mediating factors of the CHAT model - Subject, object, tools, rules, community of practice and division of labour.</th>
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<tr>
<td>NAPLAN</td>
<td>An acronym for National Assessment program for Literacy and Numeracy, standardised test for all Year 3, 5, 7 and 9 students on the Australian Curriculum outcomes for literacy and numeracy.</td>
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Chapter Two - Review of the Literature

The purpose of this study was to explore the use of movement as part of the classroom practice of three junior primary teachers, applying Cultural-Historical Activity Theory (CHAT) to identify and understand the factors that mediate this practice. The exploratory nature of this study was prompted by the lack of existing literature related to junior primary teachers’ use of movement in their classroom practice. Therefore, literature on topics related to themes that contribute to understanding teachers’ classroom practices are identified and discussed in this chapter.

Consideration of the main research question, “What factors influence teachers’ decisions to include movement as part of their classroom practice in junior primary classrooms?” led to the identification of the following sub-topics which comprise the literature review: movement and learning; the junior primary classroom context; the wider societal context including political influences; and teacher beliefs and their implications for classroom practices. A review of the literature detailing the philosophical origins of CHAT was conducted to confirm the alignment of the theory with the epistemological framework of the researcher and nature of the topic, and therefore this is also included in this chapter.

Defining Movement

Movement in the context of this study refers to intentional or incidental motion of the body employing fine and/or gross motor muscles. Some sources consulted use the alternative terms “physical activity” (Eather, Morgan, & Lubans, 2013; Kreimler et al., 2011; Parks, Solomon & Lee, 2007), “exercise” (Ratey, 2008) or “dance” (Becker, 2013; Lovatt, 2013) rather than “movement”. The language chosen depends on the research basis of the source, and reveals much about the theoretical framework on which the information is based. The term “movement” has been chosen for this project because it encompasses all of the purposes implied by the other terms, but with fewer limitations, for example, the assumption that “dance” requires a soundtrack, or that “exercise” must involve gross motor muscle groups.

Purposes of movement in society. Movement is as an ever-present feature of human endeavor and is used to satisfy needs in four broad areas of activity: Work (serves a productive function), war and contest (a protective function), social display
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(a communicative and affiliative function) and worship (to satisfy the need for self-transcendence) (Moore & Yamamoto, 2012, p. 89). The same action can take on multiple purposes and meanings, depending on the context in which it occurs. For the purposes of this study, movement performed by the students while they are engaged in their classroom program was explored. This included intentional movement, where the purpose of the activity was to use movement to achieve a particular objective and also incidental movement where students were physically active (or inactive) while participating in an activity that did not specifically involve movement.

Movement and Learning

A breadth of evidence is available linking movement to various stages of the learning process (Call & Featherstone, 2010; Medina, 2010; Ratey, 2008). Movement has the capacity to strengthen and enrich the learning experience from initial concept or skill acquisition, to improved memory/retrieval and the affective elements of motivation and morale (Chandler & Tricot, 2015; Jensen, 2005; Wood 2008). Benefits to learning can occur through participation in movement itself, and indirect benefits, where movement initiates or stimulates improved executive function or affective outcomes, can eventuate as the result from participation in movement (Lengel & Kuczala, 2010).

The role of movement in development and learning: Cognitive elements

Advances in technology in the past two decades have led to an increased understanding of how movement benefits cognition (Jensen, 2005; Ratey, 2008). Notably, neuroscientists Middleton and Strick (2000), using functional magnetic resonance imaging (fMRI) studied the part of the brain responsible for movement and found that its connection to the parts of the brain involved in memory, attention and spatial perception work via a circuitous system; messages must pass through this area in order to be processed. Further, despite its main purpose thought to be to control movement, select parts of this system were found to be, “more related to cognitive and sensory operations than motor functions” (p. 183). Essentially, technology has been able to provide evidence that movement is even more integral to the process of learning than was previously thought (Ratey, 2008).
There is agreement among neuroscientists concerning the concept of “brain plasticity” (Blakemore & Frith, 2009; Jensen, 2005). Ratey (2008) describes the concept, stating that the brain “is an adaptable organ that can be moulded by input in much the same way as a muscle can be shaped by lifting barbells” (p. 36). Given that movement promotes connections between parts of the brain, increasing them in a branch-like manner, teachers play a role in this process by making use of the circuitous routes that Middleton and Strick (2000) identified. Ratey (2008) explains the outcome: “When we exercise, particularly if the exercise requires complex motor movement, we’re also exercising the areas of the brain involved in the full suite of cognitive functions” (p. 41).

Viewed from a developmental perspective, Archer & Siraj (2015) trace the role of movement in learning back to the development of the individual in the womb. Here the process begins with establishment of the vestibular system linked to movement, balance, vision and control, followed by the cerebellar (motor activity system), with the connection between the two being the first to mature (Jensen, 2005). As the child develops, motor learning evolves as a complex interplay between the child’s growth and maturation. The nervous and musculoskeletal systems learn to work together and extensive practice of goal-directed, active movement should take place in order to build strength and refine dexterity. The senses, particularly visual, aural and tactile, supply information that the brain uses to plan the next move, assess its efficiency, and use this data to reconfigure the following attempt. This feedback allows children to fine-tune their motor control as the movement is repeated (Shumway-Cook & Woollacott, 2001).

The performance aspects of movement-based tasks can lead to cognitive benefits such as enhanced contextualisation and depth of learning. Fede (2012) describes this as “the use of kinaesthetic activities to anchor academic concepts resulting in cognitive reinforcement” (p. 16). On the flipside, Riley and Jones (2010) contend that highly structured activities requiring mostly sitting, listening and working in silence, tend to promote basic factual learning whereas “for deeper levels of learning, active involvement is needed” (p. 147).

**Gardner and “bodily-kinaesthetic” intelligence.** In 1983, Gardner challenged the entrenched view of intelligence when he put forward a new theory of diverse human intellectual competencies. Acknowledging that classical views had sculpted
our conceptions of intelligence and the practices used to measure them, Gardner instead suggested the existence of eight distinct domains: linguistic, musical, logical-mathematical, spatial, bodily-kinaesthetic, interpersonal, intrapersonal, and naturalist, collectively known as “Multiple Intelligences” (MI). Movement activities tend to be associated with bodily-kinaesthetic intelligence, described by Gardner (1983) as “the ability to use one’s body in highly differentiated and skilled ways, for expressive as well as goal-directed purposes” (p. 206). Depending on the nature of the movement activity, spatial, musical, interpersonal and intrapersonal intelligences may also be involved, with the latter two linked to the affective benefits of movement in learning by some authors (Deans, 2016; Furmanek, 2014).

**The role of movement in development and learning: Affective elements.**

Research focused on the affective benefits of movement in learning is limited, and this is possibly due to the magnitude of anecdotal evidence that appears to support this relationship. Further, affective elements can be difficult to quantify and therefore do not lend themselves well to objective measurement. Movement as part of the learning process is suggested to promote the affective skills of improved levels of engagement (Wood, 2008), increased social competence, an outlet to release stress, express emotions and aid self-regulation, although these benefits are observed as by-products rather than goals to be achieved (Becker, 2013; Furmanek, 2014; Lovatt, 2013). Different elements of movement activities contribute in varying ways to each of these affective benefits therefore these will be discussed in turn. To begin, the literature on engagement in learning is reviewed to understand the implications of this term in the context of this study.

**Engagement in learning – for movement.** Varying definitions of engagement used in relation to learning highlight the ambiguous nature of the concept. For example, Shernoff (2013) defines engagement in learning as the “heightened, simultaneous experience of concentration, interest and enjoyment of the task at hand” (p. 12), suggesting that it is the fusion of the stated factors that is most significant. Alternatively, Helgeson (2011) looks at how student behaviour should be directed toward the learning goal itself, describing engaged students as “focused, attentive, and motivated, working in various challenging ways toward some type of goal or outcome” (p. 81). While consistent themes are evident, the discrepancies
between these definitions indicate where subjectivity plays a crucial role in their application.

Given that the meaning of “engagement” is open to interpretation, it follows that the process of measuring if it has been achieved is likewise highly subjective. Depending on the circumstance, engagement might be evaluated by the learner themselves, the teacher involved or some outside party who will apply their own beliefs about what engagement is, mediated by their perception of the requirements of the task. In the case of the teacher, they will likely have played a key role in the construction and presentation of the task. This teacher then decides what cues indicate such factors as Shernoff’s (2013) “concentration, interest and enjoyment” (p. 12), reflecting their expectations of appropriate student behaviour and the expectations of the task.

Stephen, Cope, Oberski and Shand (2008), in their study prompted by the contrasts observed “between the enthusiastic, self-initiated engagement of the pre-school (setting) and the efforts teachers report are necessary to engage older pupils” (p. 17) found that for the children, engagement required active involvement, in the sense of a scope for freedom and the opportunity for choice. However, the same authors found that the teachers’ perspectives of engagement were focused on the students’ participation in activities selected and led by the teacher, and carried out according to the adult’s expectations. The description of the child-centred version of engagement hints at how and why the involvement of movement in learning might bring about observable increased levels in this aspect.

Movement and engagement in the classroom. Heightened engagement in learning is cited regularly by authors in their rationale for integrating or increasing movement in the classroom curriculum (Becker 2013, Pica, 1997; Wood, 2008). Fede (2012) suggests that a sense of novelty in an otherwise physically static curriculum draws the interest and attention of students, as well as the opportunity to make abstract concepts concrete. Physical factors come into play, whereby increased oxygen levels to the brain and increased heart rate improve concentration (Ratey, 2008). Movement tasks may be more accessible by students typically excluded from a traditional language-rich pedagogy, leading to increased engagement in learning (Pica, 1997). Students may receive more immediate feedback than in written work, because the teacher can visually check levels of understanding and they themselves
can observe their peers’ movement responses. Shoval and Shulruf (2011) suggest that young students in particular perceive movement-based tasks as an enjoyable game so they are likely to work more independently. Further, Helgeson, (2011) and Pica (1997) cite the opportunities for social development in the benefits of movement-based group activities.

**Social benefits of movement in learning.** Pica (1997) explains that the social benefits of incorporating movement into the learning environment “begin with self-discovery and result in the ability to interact with others” (p. 5). Intrapersonal and interpersonal growth, take place concurrently. For example, as a student discovers their own body in space they may also learn how to manage other moving bodies (and personalities) in the vicinity. Group interactive tasks might involve negotiating contact or use of materials. Working to co-operative goals rather than competitive goals is suggested to enhance relationship development (Shoval & Shulruf, 2011; Worrell, Evans-Fletcher & Kovar, 2002). Helgeson (2011) adds that movement-based activities help teacher-student relationships, whereby teachers get to know their students by spending time building relationships and developing an understanding of how particular students learn.

**Movement and Learning in the Classroom Context**

The relationship between movement and learning continues to be under-acknowledged in classroom contexts (Archer & Siraj, 2015; McClelland, Pitt & Stein, 2015; Pica, 1997). Jensen (2005) asserts that it is “astonishing (and) embarrassing (that) ‘sit and git’ prevails,” and goes on to suggest that this is “due to the pervasive perception that ‘thinking is thinking and movement is movement’” (p. 60). Given the pre-birth connection between the two suggested by Arthur and Siraj (2015), perhaps their interrelationship is considered so commonplace that it is taken for granted (Moore & Yamamoto, 2012; Nagel & Scholes, 2016). Further, the two perceived strands are not just viewed separately, but allocated disproportionate value. The outcome of this imbalance is that the physical body is relegated to lower importance, and therefore focus, within the school setting (Hanna, 2008; Jensen, 2005; Pica, 1997).

This weighting towards the mind over the body has flow on effects that further inhibit the presence and use of movement in the classroom context. Pica (1997)
suggests that not just teachers but parents and caregivers are complicit in thinking “the needs of the mind should take precedence over the needs of the body” (p. 4) and that this leads to in minimal time allocated for movement. Looking to the history of the classroom context provides some insight into origins of the cultural imbalance that contribute to the practices used today.

**The origins of the junior primary classroom in Australia**

Prochner (2009) researched the British origins of the “infant school” to gain an understanding of early childhood provisions in Australia today. The “infants’ class in public schools” (p. 3) described by Prochner are those from which the Australian junior primary school classroom model is descended. A foundational goal of this system was to provide care for poor children whose families were deemed unable to meet their social and academic needs. Initial aims included “order, attention, obedience, instruction and amusement” (p. 2) with the major overarching goal to reduce crime through teaching socially appropriate behaviour. In effect, the educational setting was created not for the benefit of the children who attended, but rather to reduce the blight on society that they might otherwise become.

Stand-alone infant schools were initially viewed as successful due to their high attendance rates, given their goal of removing children from the streets. Once schools were established in 1848, the infant’s classes were “tacked on” and the aims of the school setting were applied. These classes were soon criticised for their minimal success at teaching academic skills (Prochner, 2009).

The role of movement in the early junior primary classroom. The use of movement in the infants’ class was determined by both the educational goals of the time and the sizable groups that teachers had to manage. Marching with military precision was used to (literally and figuratively) keep the children “in line”. Movement was used primarily for “exercise and obedience” (Prochner, 2009, p. 236), and the “ultimate punishment” (p. 237) was to insist on the child sitting still for up to half an hour. Movement served chiefly functional purposes and was viewed as non-academic in nature.

Movement in early childhood and junior primary classrooms today. The social activism of the 1960’s and concurrent discoveries in developmental psychology highlighting the impact of early experiences on later school success (Follari, 2014)
led to the raised status of the child in the present early childhood ideology. Reflecting this, the Early Learning Years Framework (EYLF), (DEEWR, 2009) curriculum guidelines for Australian early childhood settings endorses a holistic learning process involving physically active play-based learning. However, the EYLF guidelines also note that early childhood educators’ practice will be influenced by their professional knowledge, skills, personal styles and past experiences (DEEWR, 2009, p. 12), so it follows that this applies to the use of movement in their teaching practice too. The influence of the history of movement in the early childhood setting is evident in Brewer’s (2007) caution against “a schedule that ignores a young child’s need to move physically and expects her to sit for extended periods of time” (p. 5), implying that such practices continue to occur.

**The junior primary classroom: Curricular and political influences**

The child’s transition from early childhood to the primary school setting is marked by considerable changes in educational philosophy, as evidenced in the contrasts in the structure and direction of their respective curricular guidelines. Petriwskyj, O’Gorman and Turunen (2013) explain how the “Early Years Learning Framework for early childhood programs and the Australian Curriculum for schools emerged from differing contexts and ideological bases to frame content as holistic learning or academic subjects respectively” (p. 17). The disparity between the two is suggested to stem from the economic and social investment agenda and test-based measures of achievement underpinning the *Australian Curriculum*, that conflict with the developmentally appropriate, child-centred ideology and subsequent practices of the early childhood context. Evans and Davies (2004) concur that “the value of any particular school curriculum often seems to be determined less by its educational merit than by its potential use in exchange for vocational rewards” (p. 36), while Stanley, Richardson and Prior (2003) view the issue from the child’s perspective, arguing “we know more about child and youth development than we ever have before … but we are failing to put this knowledge into action” (original emphasis, p. 7). The following section examines this dissonance in the Queensland context.

**The Australian Curriculum in Queensland junior primary classrooms.** In 2012, Klenowski anticipated the “challenges and opportunities” (p. 1) inherent in the process of introducing the national *Australian Curriculum* into the state-based education system. The same year in Queensland, the first units of the *Curriculum*
Learning to Move, Moving to Learn

*into the Classroom* (C2C) resource that provides whole school, year level and classroom planning examples were implemented in classrooms and Kennedy, O’Neill and Devenish (2011) report that many schools received instructions for the mandatory adoption of C2C. Klenowski (2012) forewarned that major change in the curriculum is often accompanied with implications for assessment and pedagogy, and the negative aspects of these changes have since come to the attention of key stakeholders, resulting in the initiative described next.

**Age-appropriate pedagogies for the early years of schooling.** In 2015, the Department of Education and Training (DET) commissioned a group of Griffith University researchers to prepare a report that reviewed the literature on age-appropriate modes of learning and teaching in the early years of schooling. The authors identified that the body of research was consistent in its support of active teaching and learning approaches to support children’s engagement and their achievement of learning outcomes. Further, the report states explicitly that the implementation of the C2C units has led to the promotion of formal, didactic approaches in many Queensland junior primary classrooms (DET, 2015).

Upon completion of the pilot stage of the project, the progress report released in 2016 identifies 11 characteristics of age-appropriate pedagogies. The “active” characteristic recommended specifies the physical nature of engagement as being necessary across all areas of learning (DET, 2016, p. 13). However, as Luke (2010) contends “any official curriculum … comes to ground via an enacted curriculum of teaching and learning events ‘lived’ by students and teachers” (p.1), therefore the next section considers the application of such policy in the classroom context.

**The Australian Curriculum and movement in the junior primary classroom.** In Queensland, junior primary teachers’ classroom practice is informed by the *Australian Curriculum* guidelines that give priority “to literacy and numeracy development because these are the foundations on which further learning is built” (*F-10 Overview*, 2016, para 3). While movement is included in the literacy guidelines of the *Early Years Learning Framework* (Council of Australian Governments, 2009), and the *Australian Curriculum* is intended to follow on from this, in the *Australian Curriculum* “the development of movement skills … are provided for in the Health and Physical education (HPE) curriculum” (ACARA, 2016, para 6). Given that in most primary schools HPE is a specialist teacher’s responsibility, this could indicate
to classroom teachers that movement education, by default, is not part of their role.

Political influences, introduced earlier, also play a part in the presence of movement in classrooms. Where standardised testing such as the National Assessment Program-Language and Numeracy (NAPLAN) results are used to rate school quality and individual performance, this has shown to be an influence where teachers adapt their practice in response (ACARA, 2011). Fletcher and Shaw (2012) assert that the effect “results in a narrowed curriculum and a teaching focus centred on students’ achievements in tests” (p. 245). Kogan (2004) suggests that such a focus ignores what would be most beneficial for a child’s long-range development and this is why the benefits of movement-based activities are often overlooked. Government policy in this case serves to reflect and maintain the wider societal trends that revere sedentary outcomes, such as the raised social status made accessible with high academic achievement (Bousfield & Ragusa, 2014).

Movement in society and in the school setting today

Societal influences have led to less activity that, in tandem with dietary changes contribute to increasing levels of obesity in children and adults (Eather, Morgan & Lubans, 2013; Scherer, 2010). Specifically for children, the popularity of hand-held entertainment devices, together with safety concerns has led to less time spent on less structured physical activities such as outdoor play and walking or riding to school (Tremblay & Willms, 2003). As Ratey (2008) states frankly, “we’ve engineered movement right out of our lives” (p. 1).

Given the considerable portion of time children spend at school, there exists overwhelming consensus that this is the most likely place to change physical activity patterns (Eather, Morgan & Lubans, 2013; Parks, Solmon & Lee, 2007). Blocking such changes is the view of movement as being separate to learning and less cognitively demanding. Evidence of the persistence of this perception exists even amongst the education academy itself, as Ashman (2015), in a pre-service education text, advises “mornings tend to be the most successful times for cognitively demanding activities and afternoons for physical activities” (p. 15), implying that physical activity is either less or not at all cognitively demanding.

Programs to enhance learning through movement in schools. Despite the bias against movement inherent in the school environment, programs to enhance
learning in schools continue to be used. Piaget’s (1952) discoveries claiming children develop through sensory experiences of tactile (touch), kinaesthetic, visual, and auditory modalities which later form the child’s perception was used as the basis for the development of some of these programs. In one example, Ayres (1972) claimed sensory experiences are a necessary part of the total development of an individual, so her Sensory Integration (SI) Treatment was focused on the integration of sensory experience. Ayres (1972) considered SI a promising method for improving the academic scores of children with learning disabilities, however Polatajko, Kaplan and Wilson (1992) refute this claim citing a lack of empirical evidence.

Developed around the same time as SI, the basis of perceptual motor programs (PMPs) were promoted by Kephart (1971), who conceived that if learning is to take place effectively, sensory and motor skills must be well integrated. Kavale and Mattson (1983) conducted a meta-analysis of the effectiveness of PMPs and found they do not deliver on academic outcomes, although Nolan (2004) and McClelland, Pitt and Stein (2015) note the methodological flaws of their study. Henderson and Henderson (2002) suggest the benefits of PMPs rather lie in increased self-esteem and confidence as the result of being more capably able to engage with peers in physical games. Stephenson, Carter and Wheldall, (2007) note that the continued use of PMPs in Australian schools is indicative of an ongoing perception that they deliver academic benefits, despite the lack of evidence to the contrary.

Also emerging in the 1970’s, Brain Gym®, also known as “educational kinesiology” (About Edu-K & Brain Gym, n.d.), was developed on the premise that learning difficulties can be remediated via a series of specific exercises designed to improve perceptual-motor processing (Hyatt, 2007). Selected elements of the theoretical basis of Brain Gym® are consistent with what is currently known and understood about the aforementioned movement and cognition connection. As Hyatt (2007) states, “although efficient connections amongst various parts of the brain may foster cognitive development, none of the Brain Gym® literature has provided research based, scientific evidence supporting this view of brain functioning”(p. 118).

Further, “none of the Brain Gym® movements that supposedly facilitate academic learning include academic instruction as a component” (Hyatt, 2007). However, Shoval and Shalruf (2011) and McClelland, Pitt and Stein (2015) have
more recently shown in studies incorporating movement and curriculum content, that improved academic outcomes are achievable using movement-based interventions. McClelland, Pitt and Stein (2015) found the greatest gains were shown in students with learning difficulties, leading the authors to postulate that the intervention improved the accessibility of the curriculum content for these students. Bartholomew and Jowers (2011) also noted that students from low socio-economic backgrounds stood to benefit most from increased activity as they often began with the lowest levels, and these authors acknowledge that such interventions are more likely to be maintained by class teachers if they contain an academic component.

Programs to increase movement levels and improve student fitness in schools. The Health and Physical Education (HPE) discipline provides the dominant disciplinary and curriculum focus for initiatives to increase movement levels (referred to as physical activity, or exercise) in schools. As expected, the proposed interventions align with the learning outcomes of the HPE curriculum itself. Thus, their aim is to improve overall fitness by increasing the quantity of movement as well as quality in the areas of speed, strength and agility (Erwin et al., 2012; Hunter et al., 2014). The studies employ predominantly quantitative data, generated by tools such as pedometers and accelerometers. Where studies also measured for cognitive improvements, tools ranging from psychologist-administered norm-referenced tests, to observations and interviews with participants in the study were included (Erwin et al., 2012; Kriemler et al., 2011).

Statistically based quantitative methodology reflecting a positivist epistemological perspective is common throughout the literature related to physical education interventions in schools. The view relies on the assumption that the measures used give the best indication of improved levels of physical activity, and that increased levels are the most important factor in rating the effectiveness of the intervention. This notion can be challenged by querying the rationale that increased physical activity now contributes to later health outcomes (Erwin, et al., 2012; Parks, Solmon & Lee, 2007). While the data generated might reflect current changes in physical activity levels, little regard is given to additional factors that will help deliver long-term benefits. Illustrating this, a review of follow-up studies that measured the sustained impact of physical activity interventions found that both duration (over a year) and the application of a theoretical construct as a mediator for
change were necessary to show long-term improvements (Lai et al., 2013). Worrell, Evans-Fletcher and Kovar (2002) agree, explaining “lifetime activity levels are directly related to our attitudes about being physically active” (p. 31) and thus they recommend that these attitudes be explicitly taught, as for any other learning objective.

The few dance-based approaches to increase movement levels for school students were devised by teachers with a background in the discipline (Becker, 2013; Furmanek, 2014). While this characteristic indicates why these examples are rare, commonalities within the proposals reveal the unique way the dancer/teacher views learning and movement. The approaches value benefits beyond prescribed, outcome-based learning, with self-expression, creativity and enjoyment being at the forefront of their rationale for why movement-based activities should occur in the classroom. Improvement to physical fitness is relegated to a secondary yet integral aspect, as the inextricable nature of movement and learning is perceived as being impossible to conduct (and therefore evaluate) separately.

Other researchers view the relationship of movement to learning from the scientific perspective of cognition. Embodied Cognition (EC) is a broad term used to describe a class of theories within cognitive science which recognise that “direct sensorimotor interactions are essential for gaining knowledge and cognitive capabilities” (Wellsby & Pexman, 2014, p. 1). Movement-based interventions studied by EC researchers address how specific types of movement increase cognitive outcomes rather than in the HPE physical activity interventions, which are concerned with measuring how much movement occurs, in sufficient quantities.

One EC example is the McClelland, Pitt and Stein (2015) trial of a “novel classroom physical activity intervention to increase awareness, attention and self-control” (p. 83) where activities were targeted to the skills that are being assessed. The authors claim that it is the nature of “focused awareness and mindfulness” (p. 83) of the physical actions that have the greatest benefits for academic learning, and likely more so than the performance of aerobic exercise. EC researchers Pouw, van Gog and Paas (2014) support this view in an analogous study where they caution against the replacement of concrete instructional manipulatives with virtual (screen based) representations. In their findings, they make a claim for an embedded and embodied cognition - embedded in the environment, embodied in the individual.
While this study is based on the use of concrete objects, the conclusions are of interest when considering the analogy of the representation of concepts using the student’s own body. While these authors acknowledge that criticism has been directed at instructional manipulatives due to concerns regarding the transfer of learning from concrete to symbolic, they propose that their “perceptual and interactive richness can alleviate cognitive load imposed by working memory” (p. 51). Shoval’s (2011) study, where Year 2 and 3 students used “mindful movement” to learn about angles, supports this view.

Some educational approaches involve few restrictions on the students’ movement, such that interventions to increase the amount of such activity are unnecessary. Both the Reggio Emilia and Montessori approaches embed movement in their teaching model, in recognition of the young child’s urge to move and the opportunity for symbolic representation via this mode as integral to the child’s emergent communication capabilities – acknowledged as one of the “hundred languages” of children (Cadwell, 2013). While Reggio Emilia is a pre-school program, catering for children up to six, there is some overlap with the 4½ to 6 year olds in the Prep and Year 1 classes in Australian schools. Montessori programs, with their corresponding stance of child-centredness, cater for pre-school through primary and lower secondary years (Fuchs, 2014).

Movement initiatives in Queensland state schools: The Smart Moves program. The need for schools to increase their students’ movement levels has not gone unheeded in the context of the Queensland primary classroom. In July 2007, the Smart Moves – Physical Activity Programs in Queensland Schools initiative was announced, citing “the aim … to increase student participation in physical activity and to improve the quality of the activity delivered to all Queensland state school students” (DETE, 2012, p.1). This program was one of a number of government programs introduced at the time, intended for “tackl[ing] childhood obesity and improving children’s health and wellbeing through participation in physical activity.” The program comprised six key components:

1. Allocated time for physical activity (a recommended 30 minutes daily)
2. Improved access to resources for physical activity
3. Increased capacity to deliver physical activity
4. Professional development in physical activity for all teachers

5. Community partnerships to enhance physical activity

6. Accountability for physical activity through annual reporting protocols.

(DETE, 2012, p. 1)

The full implementation of the *Smart Moves* initiative commenced in June 2009. At the time of writing, only the summary report (DETE, 2012) is still available online, with resources for enacting the program no longer accessible on the Education Queensland website. The key findings of the summary report state that “curriculum pressure is identified as a significant barrier to effective Smart Moves implementation” (p. 2) and later notes “schools have experienced a rapidly changing education environment, with a renewed focus on core learning priorities” (p. 2).

Given the timing of the rollout of the C2C materials, to facilitate Queensland state schools’ transition to the *Australian Curriculum* also occurring in 2012, it is possible that Education Queensland’s efforts to increase movement using *Smart Moves* were undermined by their own, conflicting policy mandate. The opportunity to integrate the *Smart Moves* objectives or approaches into the C2C material has been apparently overlooked, resulting in the reported benefits of physical activity and movement yielding to the dominance of academically focused outcomes.

**Summary of movement-based educational programs and their emphasis**

The range of perspectives evident in the initiatives intended to increase movement in the school setting is depicted in Figure 2.1, reflecting that the more child-centred the theoretical basis of the program, the greater the quantity and value of movement is encouraged. At one end of the spectrum sits the ideology that emphasises test-focused academic achievement and therefore movement is of such low value that it is considered to be beyond the core classroom program altogether. This is reflected in the physical location for movement, predominantly outside the classroom setting.

Bousfield and Ragusa (2014) argue that this results in an adultification, where children are subjected to developmentally inappropriate expectations in order to reach academic benchmarks, and that this is a side effect of the individualization driven by a competitive economic government agenda. The *Australian Curriculum* and the HPE-focused initiatives are designed to maintain the status quo in this respect.
Figure 2.1 Ideological continuum of movement-based programs.

At the other end of the continuum are the child-centred approaches (such as the Reggio Emilia approach, Montessori) where movement is embedded in the general class program. Initiatives to increase movement in these settings are unavailable because they are not required. The place where students spend the most time, their classroom, is also the location for regular physical activity (Fuchs, 2014). The role of movement in academic learning is holistic and is indicative of the ideological perspective that places a high value on children’s agency in their own learning, rather than imposing external expectations upon them.

The influence of recommendations on teachers’ practice

While there is a breadth of recommendations available to teachers about how movement might be used in their classroom, Burns (1992) explains that teachers’ practice “is grounded in personally evolved theories or set of beliefs about teaching and learning” (p. 57), which influence the decisions that shape their practice in this or any other domain. This personal evolution of teachers’ beliefs does not occur in a vacuum, with the cultural climate in which these develop playing a significant role in their formation and perpetuation (Hamilton, 1993). Alexander (2004) extends on this idea, stating that “all education is grounded in social and indeed political values of some kind” (p. 8) and therefore the application of a theoretical framework, Cultural-Historical Activity Theory (CHAT) that seeks to examine the individual’s activity within their social and political environment, was appropriate for this project.

Teacher beliefs

Pajares (1992) raises the importance of making the distinction between teachers’ beliefs and knowledge when conducting educational research. While Pajares notes the difficulty in placing where beliefs end and knowledge begins (p. 309), Nespor
makes the distinction that knowledge is more open to critical evaluation, whereas beliefs are not, and contends that knowledge can be present but not operationalised if beliefs dictate. This is relevant in the context of the current study, as the teachers’ process of dialectical reasoning will involve some trade-offs. Pajares (1992) explains:

Beliefs are instrumental in defining tasks and selecting the cognitive tools with which to interpret, plan, and make decisions regarding such tasks; hence, they play a critical role in defining behavior and organising knowledge and information” (p. 325).

The key words of *defining tasks, selecting cognitive tools* and *defining behaviour* illustrate the suitability of CHAT as the theoretical framework applied in this research that seeks to understand the intricacies and complexities of the teachers’ activity, that is, their classroom practice.

**Activity Theory**

Activity Theory, having its philosophical foundations in the Marxist conception of labour, was initially represented by a triadic model developed by Lev Vygotsky (Figure 2.2). His work acknowledged the process of cultural mediation, whereby the relationship between the subject (actor in the activity) and object (outcome or motivation) form a dialectic unit, mediated by the tools available (or appropriate) for the socio-cultural setting in which the action occurs (Er, 2014).

![Figure 2.2 Vygotsky’s model of cultural mediation (Er, 2014).](image)

Having worked under Vygotsky early in his career, Aleksei Leont’ev further developed this theory into the collective model, whereby action is mediated by outside influences, described as the community of practice, rules and the division of
labour (Engeström & Miettinen, 1999). This model developed into its contemporary visual form by Engeström (Figure 2.3).

![Cultural-historical Activity Theory model](image)

*Figure 2.3 Cultural-historical Activity Theory model.*

The model defined by Engeström embodies a fundamentally dynamic process. Roth (2004) emphasises that the apparent rigidity of the figurative representation (Figure 2.3) belies the fact that “the very notion of activity … at the heart of Engeström’s representation embodies change” (p. 3). Specifically, the object can change or evolve over the lifetime of an activity. Therefore, in undertaking the activity, the anticipated object and the actual outcome may differ (Er, 2014).

Engeström draws attention to the “contradictions” or dilemmas internal to human activity that occur when there is discord between different elements of the activity. This can occur when one component changes or develops beyond the operational logic of the other components. These contradictions are central to dialectical reasoning, as they constitute the drivers of change (Engeström, 1999).

**Application of Cultural-Historical Activity Theory.** This study explored task-oriented social behaviour in the cultural setting of the primary school classroom, so the CHAT framework was applied as a theoretical model to guide the research questions, observation, interview and analysis processes. The initial guiding model is shown below in Figure 2.4, *Application of Cultural-Historical Activity Theory.*

The cultural-historical view of the mediating tools and associated processes, developed over time by earlier participating workers (Er, 2014) in this study pertains to past educational practices. Therefore, it is relevant to note that both the cultural and the historical aspects of junior primary teachers’ practice (of movement based activity) have been explored in this project.
Significance

This project explored movement in the junior primary classroom from the perspective the teacher, acknowledging that one of the key obligations of their role is to educate children to meet curricular objectives. The relationship between the classroom teacher (the subject—Figure 2.4) and the objective of curricular and other goals (the object) is the dialectic relationship that forms the basis of this study, hence the application of CHAT in the research design.

Previous studies have under-acknowledged the role of the mediating factors included in the CHAT model (tools, rules, community of practice and division of labour - the nodes, see Figure 2.4). Rather, they have viewed the solution to lack of movement in the primary classroom as a problem that can be solved using a simplistic add-on approach. These studies have failed to show that such an approach delivers sustained changes (Hunter et al., 2014; Lai, et al. 2014). Furthermore, ineffective programs can take time and resources away from programs that could be more effective (Stephenson, Carter & Wheldall, 2007) resulting in a negative impact on students’ learning.

Conversely, Eather, Morgan and Lubans (2013) showed that social support from teachers was an effective mediator in changing the behaviour of students to
increase physical activity levels. The authors’ conclude “classroom teachers play a key role in influencing physical activity behaviour outcomes in children” (p. 1). This recognition of the importance of the teacher’s role foregrounds the key research question “What factors influence teachers’ decisions to include movement as part of their classroom practice in junior primary classrooms?”

**Research Questions**

This study explored the key research question through observation of teachers in their classroom context and follow-up semi-structured interviews designed to reveal the motivations behind the teacher’s actions. From the key research question, the following sub-questions are intended to build an emergent knowledge base in the nodes of the CHAT model, and the links or contradictions occurring between them:

1. What factors from within the individual teacher influence their use of movement in their classroom practice?
2. Which curricular outcomes do teachers use movement to achieve, and what pedagogical and physical tools do the teachers use in this process?
3. How do rules and the school community influence teachers’ use of movement in their classroom practice?
4. How is the division of labour applied in movement-based activities?

**Summary and Conclusion**

Recent advances in technology have provided empirical evidence to show the connection between movement and learning to be more linked than was previously thought (Ratey, 2005). Although this research suggests that learning through movement is integral in the physical and cognitive development of young children (Call & Featherstone, 2010; Hannaford, 1995), this connection continues to be under-acknowledged in school settings (McClelland, Pitt & Stein, 2015).

The low value attributed to physical ways of learning in schools can be traced back to the inception of the model that guided the development of mass schooling in the west, and the cultural context in which this occurred (Depaepe, 1997; Prochner, 2009). The founding goal of improving social outcomes for students through order and control resulted in teacher-led didactic pedagogies and an emphasis on rote learning. Ideological developments in the philosophy of early childhood learning
were spurred by changes in developmental psychology and social activism, leading to recognition of birth to eight as a pivotal time in for learning. Movement became embedded in these approaches when programs built on the discoveries of Piaget (1952) coupled purposeful movement with the goal of achieving academic outcomes.

However, recent curriculum reforms in Queensland schools have, driven by test-based measures of student achievement and increased teacher accountability, triggered a rise in formal, teacher-directed learning in junior primary classrooms (DET, 2015). The *Age appropriate pedagogies for the early years of school* was instigated in 2015 to redress this ideological disjunction by providing information and training to Queensland state school junior primary teachers. However the competing priorities influencing teachers’ practice has resulted in the decline of movement interventions and the emphasis of a content-driven curricular focus (DET, 2015).

As primary-aged school students spend most of their time with their classroom teacher, this is the logical place where movement should be retained as a valuable support for children’s learning (McClelland et al, 2015). The significance of the teachers’ role in this process is acknowledged, as the enactment of curriculum and pedagogical decisions lies with them (Eather, Morgan and Lubans, 2013; Luke, 2010). The choices teachers make regarding the use of movement in their classroom practice occur within a complex social context and therefore this study applies *Cultural-Historical Activity Theory* (CHAT) as a framework to explore this decision making process. Previous studies have under-acknowledged the role of the mediating factors included in the CHAT model and therefore the findings of this study provide a valuable platform on which to base further study on this topic. The following chapter provides an overview of the methods of data collection and analysis that led to the findings of the study.
Chapter Three: Methodology

The qualitative research design selected for this study reflects the exploratory nature of the topic. The single-site case study design was considered the most appropriate to access information on teachers’ decision-making process, as it occurs in context and in the teachers’ own words. This consideration is reflected in the selection of the theoretical framework and the research questions, and in the analysis methods employed.

The chapter is presented in 12 parts. First the qualitative research design is explained, followed by the rationale for selecting case study methodology. The application of the theoretical construct is described next, which guided the development of the data collection tools, after which the researchers assumption and bias is disclosed. Then, the research site and participants are described and ethical approval is detailed. Lastly, the data collection process of focused observation and follow-up interviews is described, followed by an explanation of the analysis process undertaken and finally, some concluding comments.

Qualitative Research design

This study employed a single-site case study design (Stake, 1995), utilising the qualitative research methods of focused observation followed by semi-structured interviews. The recursive, two-phase process was intended so that each successive data collection opportunity would be informed by the previous stage, building depth into the understandings developed over the course of the study (Warren & Karner, 2010).

Qualitative approaches to data collection were selected because the paradigm aligns with the methodology and theoretical framework applied. Gerson and Horowitz (2002) affirm the use of the chosen approaches, stating “observation and interviewing (methods) share a core of epistemological assumptions that make them complementary and interconnected… (and) …good qualitative study requires some of both approaches” (p. 200). The sequential explanatory nature of the research design was particularly advantageous in the context of the research question, as a comparison of what the teachers said and did was possible, with some discrepancies contributing to some of the key findings of the study (Creswell, 2014).
Rationale for case study methodology. The nature of the research problem guided the selection of the case study methodology, as its justification resulted, in part, from the lack of existing data on teachers’ use of movement in the classroom practice. Stake (1995) affirms that gathering this data in the authentic setting of the classroom is necessary in order to learn how the teachers function in their “ordinary pursuits and milieus” (p. 1). The classroom is the location and climate where the practices investigated in this study primarily occur, and further, data of this nature was collected to address the gap in the existing literature. Focus aspects (for example, the physical tools used by teachers) will only be evident in their full contextual reality in this setting, and aspects of their use could go unmentioned if the data was based on self-reporting only. Therefore the combination of observation and follow-up interview, on two occasions, served the dual purposes of both triangulation and adding depth to the research results (Stake, 1995). The recursive and dynamic process supported the researcher to delve further into the key themes that were revealed in earlier stages of data collection (Merriam, 2009).

Application of the theoretical construct

Introduced in the previous chapter, Engeström’s model of Cultural-Historical Activity Theory (CHAT) acted as a guide throughout the data collection and analysis process. The influence of CHAT began during the shaping of the initial research design and research questions that subsequently guided the focus of the observation and interview questions. During the analysis phase, the CHAT framework was used as a heuristic device to identify specific factors and explore their relationships. Data from the thematic analysis stage was inserted into an electronically rendered CHAT model diagram for each participant (Appendix J) to further facilitate comparison of cases (Merriam, 2009; Stake, 2005).

Data collection tools

The self-designed observation protocol (Creswell, 2014, p. 227) (Appendix E) was designed to aid the researcher’s focus towards information that would support the exploration of the research sub-questions. The protocol was printed for note taking by hand, as this was intended to be less intimidating than entering the information directly on a laptop computer in the classroom environment. Trialling of a preliminary version of the observation protocol was carried out prior to the study.
During this trial, the process of entering information was refined to ensure that the chronology of events would include details about the relevant movements or actions of the students and the teacher, so the printed headings were used to prompt the researcher’s focus. Individual quotes were sometimes included verbatim where they were considered relevant to the focus of the research.

Immediately following each focused observation, semi-structured interviews were conducted in an attempt to understand the research problem from the subject’s point of view (Kvale & Brinkmann, 2015). This method aligned with the theoretical model, where the subject’s decision making processes are the primary focus. The semi-structured design allowed for the questioning of practices observed during the prior observation (Appendix F), and the interviews provided for flexibility in participant responses which suited the exploratory nature of the study (Cohen, Manion & Morrison, 2007).

**Researcher Assumptions and Bias**

Assumptions are implicit in the observation process (Warren & Karner, 2010) and the researcher acknowledges the relevance of past professional experience in the role of a junior primary classroom teacher. This insight can be viewed as advantageous, as it gives the researcher an understanding of some of the complexities of the teachers’ role (Warren & Karner, 2010). The disadvantages lie in the risk that the researcher will make generalisations based on personal experience rather than the practices and responses of the teachers participating in the study. To reduce this risk, it is noted that the researcher was unfamiliar with the particular school context in which the study was conducted. Having taught in school settings in another state (South Australia), another system (non-Government) and using another curriculum framework (before the introduction of the *Australian Curriculum*), the interpretation of the teachers’ responses was not biased by the researchers own experiences, at least in regards to these contextual aspects.

To achieve this goal of observing and deconstructing the social processes in context, three teachers, currently teaching each junior primary year level (Prep, 1, 2) were invited to participate in the project.
Research Site and Participants

A co-educational state primary school from an urban location in Brisbane, Queensland was the site chosen for this research project (see Appendix C). The pseudonym *Central SS* has been used in this study to maintain the confidentiality of the site and participants. A mid-level socio-economic population was purposefully selected to reduce the possibility of interference from the over-resourcing that might be present in a higher socio-economic school, and also avoiding the confluent issues of disadvantage that could influence the results if the study was conducted in a low income demographic. Access to the site was initially granted via a friendship with a staff member, who passed contact details on to the Acting Deputy Principal.

Three, full-time junior primary classroom teachers from *Central SS* were offered the opportunity to participate in this project by the Acting Deputy Principal. They each received an *Invitation to participate* letter via email (Appendix B) and were introduced to the study at a meeting with the researcher at their school, where they were informed that they would need to nominate two lesson times of approximately 30-40 minutes, during which they would be likely to use movement in some way in their practice. The teachers were requested to suggest times where the researcher could view a different Key Learning Area (KLA) lesson focus on each occasion. The participants each signed a letter of consent to participate in the study at this meeting.

The typical sampling strategy was employed to provide a range of ages, years of experience and teacher training backgrounds (see Table 3.1) (Merriam, 2009). While having both male and female teachers participate in the study was preferable, all junior primary classroom teachers employed at the site were female. The participants were asked to provide this demographic information using structured questions by email. Table 3.1 on page 33 illustrates the relevant details of each participant.

**Ethics**

Appropriate ethical clearance was obtained from Griffith University Human Ethics Review (Appendix A) and this was forwarded to the *Central SS* Acting Deputy Principal prior to collection of data.
Table 3.1 Participant details.

<table>
<thead>
<tr>
<th>Name (pseudonym)</th>
<th>Beth</th>
<th>Tessa</th>
<th>Sally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>F</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Age range</td>
<td>31-35</td>
<td>26-30</td>
<td>41-45</td>
</tr>
<tr>
<td>Pre-service teacher training</td>
<td>Bachelor of Education Primary (Early Childhood)</td>
<td>Bachelor of Primary and Middle Schooling (Prep – 9)</td>
<td>Graduate Diploma (Early Childhood Education)</td>
</tr>
<tr>
<td>Years of teaching experience</td>
<td>10</td>
<td>6</td>
<td>21</td>
</tr>
<tr>
<td>Year levels taught previously</td>
<td>Prep, Year 1, 2, 3</td>
<td>Years 1, 3</td>
<td>Preschool, Prep, Year 1, 2, 4</td>
</tr>
<tr>
<td>Current year level taught</td>
<td>Year 2</td>
<td>Year 1</td>
<td>Prep</td>
</tr>
</tbody>
</table>

Data Collection

The review of the literature on related topics (see Chapter Two) shaped the research design and methodology, with the thematic analysis stages right from the first phases of data collection (Braun & Clarke, 2006). The theoretical framework was applied during these initial planning stages and was thereby embedded in the data collection process itself.

**Focused Observation.** The first phase of data collection began with the 30 minute focused observation, which took place in the research participant/teacher’s classroom at a time suggested by them. The researcher/observer used a self-designed observation protocol (Appendix E) guided by the research questions and the theoretical framework applied, with the researcher’s knowledge mediating this process. Field notes were made with lead pencil on a paper, which was intended to be flexible as well as least intrusive, given the researcher’s role as a visitor for the students in the classroom being observed. The students were not told specifically what the role of the observer/researcher was, and while some informal salutations occurred, the students immediately returned to what they had been doing before the researcher arrived in the classroom.

**Follow-up interviews.** Semi-structured interviews were conducted immediately after the observation. The one-on-one interview process enabled the researcher to ask questions to seek to understand the motivations behind the teachers’ practices. The questions were developed for each data gathering occasion, reflecting
the iterative process (see Appendix F for sample questions). Further questions were generated from the observation process, and also from the interview itself. Each interview was recorded on the researcher’s iPhone with an additional voice recorder used as a backup. The recordings were named by individual teacher codes at this stage in order maintain the participants’ confidentiality, which were replaced by pseudonyms in the final report. The nodes embedded in the research questions and theoretical framework guided the preparation of pre-prepared questions, however the observation session gave rise to further, more specific questions to draw out the intentions behind the specific practises observed.

Several days elapsed between each participant’s first round observation and interview episode, and thematic analysis began to take place that resulted in refinement of the subsequent pre-prepared interview questions. Further analysis occurred during the transcription process (carried out by the researcher) after which the original recordings were deleted. This preliminary analysis following both the observation and interview added to the depth and refined the focus of the next data collection opportunity.

Given the nature of the research design, the first phase of formal thematic analysis was intended to generate further questions for the next round of observations and interviews, which followed several weeks later and took a similar format. During this second phase, the opportunity was taken to member check some of the concepts emerging from the first phase of data collection, adding depth and serving to validate the content of the data gathered thus far (Creswell, 2012; Warren & Karner, 2010). This member check was continued upon completion of the final transcripts, and one teacher responded to make a correction to her terminology and this change is reflected on the final transcript.

**Analysis of Data**

Following the second round of data collection, the notes taken during each observation occasion were scanned for themes relevant to the research questions. However, the focused nature of the observation meant that what was recorded was mostly relevant at this stage. This data was transferred and summarised into a *Matrix of Observation Findings* (Table 3.2, sample in Appendix G) (Bloomberg & Volpe, 2008, p. 104).
Table 3.2 Structure of Matrix of observation findings.

<table>
<thead>
<tr>
<th>What you saw …</th>
<th>What you think …</th>
<th>Validated by …</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective observation</td>
<td>Possible relevance to this study, in the researcher’s opinion.</td>
<td>Relevant data from interviews or observations to confirm or deny the opinion expressed in the previous column. This was left blank where data was not available.</td>
</tr>
</tbody>
</table>

Each participant and each round of data was recorded separately to help identify patterns from within each case and across cases (Stake, 2005). Initial themes emerging from the analysis of the Matrix of observation findings (Appendix G) were used to review the original transcription, and relevant quotations from the participants were transferred into a table grouped by these themes (Themes and sub themes – teacher quotes, sample in Appendix H). Again, these were arranged by teacher to help reveal patterns specific to each case (Stake, 2005).

Repeated re-reading of all the data gathered thus far - the observation notes, original transcripts, Matrix of observation findings and Themes and sub themes – teacher quotes led the researcher to identify the contrasting purposes the teachers used for movement in their classrooms (Braun & Clarke, 2006). Therefore, the Purposes of movement flowcharts (Appendix I) were developed to identify patterns within cases and to compare between cases (Stake, 2005).

While the previous stages of the analysis used the nodes (tools, rules, community of practice and division of labour) as addressed in the research questions to embed the CHAT framework, the following step involved the data from the thematic analysis stage to be synthesised and input into an individual CHAT model diagram for each participant (Appendix J). These were first analysed separately (Stake, 1995) from which further concept maps exploring specific themes and presented in the next chapter were created.

The researcher reflectively noted an initial tendency to view things as either/or led to the inclusion of the continua included in Appendix K. However as the analysis progressed it was recognised that the teachers’ use of movement in their classroom practice was a more complex process than a linear graphic could represent, so these
were discarded. Rather, the model of the CHAT framework, designed to depict the interrelatedness of the factors identified in the study, was applied to illustrate the tensions created between the competing priorities encountered by the teachers - the “contradictions” in the CHAT model (Engeström, 1999).

Incidental and planned discussions with the project’s supervisors took place throughout all stages of the analysis process. These discussions served to increase the reliability of the findings as emergent themes and findings were justified against the theoretical model employed.

Table 3.3 presented below, explains how the data analysis process carried out in this research project corresponded with the stages presented in Braun and Clark’s (2006) “Phases of thematic analysis” (p. 87). A summary of the data corpus collected is included in Appendix D.

**Table 3.3 Application of Braun and Clark’s (2006) Phases of Thematic Analysis.**

<table>
<thead>
<tr>
<th>Phases of thematic analysis (from Braun &amp; Clarke, 2006, p. 87)</th>
<th>Application in this study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Familiarising yourself with your data</td>
<td>Transcription of interview by researcher, re-reading transcriptions and observation notes. Preparation of <em>Matrix of observation findings</em> (Appendix G)</td>
</tr>
<tr>
<td>Generating initial codes and Searching for themes</td>
<td><em>Matrix of observation findings</em> was re-read in context of research questions, leading to development of initial codes used to prepare codes used in the <em>Themes and sub themes – teacher quotes</em> (Appendix H). Both the above were used to compile * Purposes of movement flowcharts*, (Appendix I) and <em>CHAT models</em> (Appendix J) for each teacher.</td>
</tr>
<tr>
<td>Reviewing themes</td>
<td>Some themes dismissed, others further developed. Supervisors participated as additional coders in this process.</td>
</tr>
<tr>
<td>Defining and naming themes</td>
<td>Thematic concept maps prepared, depicting the relationships between themes.</td>
</tr>
<tr>
<td>Producing the report</td>
<td>Continued analysis conducted during the process of writing up the final report.</td>
</tr>
</tbody>
</table>

**Conclusion**
To explore the factors that influence Queensland junior primary teachers’ use of movement in their classroom practice, this qualitative study employed focused observation and semi-structured interviews in a single-site case study research design. Three teachers from a mid-level, urban Queensland state school participated in the data collection phase over two occasions in September and November, 2016. Engeström’s Cultural-Historical Activity Theory (CHAT) was applied to guide the structure of the research questions, the focus of the observation and the interview questions. A dual-phase thematic analysis (Braun and Clark, 2006) served to support the validity of findings reached, as presented in the next chapter.
Chapter Four: Results

This chapter presents the findings of the study. The recursive and dynamic analysis process (Merriam, 2009) that led to the results presented here was guided by the Cultural-Historical Activity Theory (CHAT) framework, and this is reflected in the interrelated nature of the factors identified. As CHAT was applied through all stages of the research process, it is used in this chapter to explain specific findings.

The factors identified in the data were found to be individual, relating to knowledge, skills and beliefs, or contextual, relating to curriculum requirements, pedagogical requirements and physical resources. The individual and contextual factors are closely linked, which is represented by the lines connecting the nodes in the visual rendering of the CHAT framework (figure 2.4). The factors shape the structure of this chapter, as shown in Figure 4.1 below.

![Main thematic concept map](image)

*Figure 4.1 Main thematic concept map.*
From this initial visual arrangement of the findings, the themes from within the factors were further broken down and represented in separate concept maps for the individual factors (Figure 4.2) and contextual factors (Figure 4.3), shown below.

**Figure 4.2** Concept map for individual factors

**Figure 4.3** Concept map for contextual factors.
Individual factors were found to originate in the subject node of the CHAT model (Figure 2.4) and these are presented first. As knowledge and skills were found to be related to the three factors concerning beliefs, they are integrated into the discussion of the latter.

**Beliefs about the Curriculum**

In the teachers’ view, their use of movement in their classroom was limited in quantity and quality, with the pervasive influencing factor described as the curriculum. Despite this consensus, aspects of the views and the results observed were different for each teacher and their practice, and therefore this was considered an individual factor (as well as a contextual factor, as discussed later in this chapter). This reflection led to scrutiny of the contrasts in the teachers’ interpretation of the curriculum, in consideration of how their individual beliefs that might contribute to this process. Therefore, this is the focus of the following discussion.

**Barriers to the use of movement in classroom practice.** Beliefs about the curriculum and how it serves to limit the teachers’ use of movement revealed these themes; the prescriptive nature of curricular pedagogical requirements, the quantity of content that must be covered in limited time, and variations in the understanding and interpretation of what the curriculum specifies.

**Prescribed curricular pedagogical requirements.** The teachers reported that the structure of the curriculum was a major barrier to the use of movement in their classroom practice. Beth specified how prescriptive curricular pedagogical requirements influenced her use of movement in her classroom, naming the Curriculum into the Classroom (C2C) (Department of Education and Training, 2017) and Reading to Learn (R2L) (Reading to Learn, 2016) programs:

I don’t believe that the curriculum is very conducive to movement in the classroom. I find especially with the C2C they are expecting children to sit sometimes for 40 minutes in the one spot. …We’ve just up taken “Read to learn” … it’s very modelled, it’s very structured … it doesn’t give a lot of options to be flexible with it.

Both Beth and Tessa were observed implementing the “Reading to Learn” (R2L) literacy program in their classrooms. The explicit lesson pattern involved the students remaining seated while the teacher led them step-by-step through tasks
using a section of text projected on the interactive whiteboard. In both cases, any interaction with the whiteboard, beyond reading the projected image was performed by the teacher with a few students called upon separately to provide verbal responses during the lesson. Tessa further stated that opportunities for movement were limited “especially with the reading program that we do”, referring to the R2L specifically.

These observations and comments served to affirm the teachers’ beliefs that this program lacks any deliberate inclusion of movement, for either the teacher or the students.

Sally also mentioned the influence of structured curricular programs in her classroom however her method of implementation was more flexible. For example, she described her use of the C2C resource for Mathematics:

I follow the general outline of what it is that week … I get the gist of what’s required, I’m going to break those 5 or 4 lessons down into 2, and then we’ll do our addition and other things we need to do on the other days. …okay, this is going to take me about an hour. Okay it’s measurement, in the middle of that we will need an opportunity to move … we will take our measuring containers out there and do our measurement in the sandpit for ten minutes and then we’ll come back in and do the next bit.

Sally suggests that the need to adapt the C2C program in this way stems from her view of where movement sits within the curriculum guidelines: “I think it’s up to teachers’ knowledge and experience to throw it in where it’s required.” In this instance, Sally’s extensive knowledge of the curriculum was needed to reduce her reliance on the prescriptive resources provided in the C2C materials.

The knowledge, experience and skills of teachers, and the decision making process that monitors their application, is a key aspect of all the individual factors, as discussed throughout this chapter.

**Quantity of content, given time limitations.** The three teachers stated that the quantity of curriculum content they are required to cover within limited time served to reduce opportunities for movement in their classroom practice. Beth described, her “biggest concern and (her) biggest struggle with movement in the classroom is the curriculum. It’s very rigid in what we have to get through in a certain year”, while
Tessa explained “because it’s so jam-packed, sometimes you don’t have time to make it as hands-on and interactive as you’d like. It’s quick, fast-paced.”

While this belief was consistent throughout the responses of all the teachers, the approaches they employed to overcome this challenge varied. The exploration of these differences led to the identification of the following categories that describe the purposes for which the teachers were observed to use movement in their classroom, shown in Table 4.1.

Table 4.1 Purposes for movement in learning tasks.

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement intended for learning</td>
<td>Movement is used specifically to enhance curricular content, i.e. conceptual understanding or skill development</td>
</tr>
<tr>
<td>Movement occurring while learning</td>
<td>Provision is made for incidental movement during curricular tasks, where the task does not involving intentional movement</td>
</tr>
<tr>
<td>Movement to prepare for learning</td>
<td>Movement activities used to improve engagement in the curricular tasks that will follow</td>
</tr>
</tbody>
</table>

In her Prep classroom, Sally used movement intended for learning purposes when she introduced a handwriting task with video-led finger exercises to “strengthen their finger muscles for fine motor, …and then also having them do the big movements in the air” to develop the gross motor and letter formation skills. On another occasion, a video was again used to guide movement towards the curricular outcome of counting back from 20. As Sally explains “I’ve got a couple of them that don’t know their numerals yet. Showing it on screen, while they are moving, they will pick something up.” Both examples occurred early in the lesson, so they served the purpose of using movement to prepare for the learning activities that followed as well, and Sally referred to these preparation activities as a “warm-up”. Sally also provided for the students’ need to move while learning by including floor work and location changes during the lesson, facilitating their engagement in the incidental movements that occurred while they worked.

Beth addressed the challenge of incorporating movement into the curriculum through her recent implementation of what she termed a “flexible seating plan”. To provide extra opportunities for movement occurring while learning, the students in
Beth’s class could choose between a variety of seating, reclining or standing options as they engaged in the lesson observed, as listed in Table 4.2.

*Table 4.2* Flexible seating, standing or reclining options in Beth’s classroom.

<table>
<thead>
<tr>
<th>Seated options</th>
<th>Non-seated options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low square stools with cushions at standard tables</td>
<td>Standing at a raised table</td>
</tr>
<tr>
<td>Low circular timber stools at a low table</td>
<td>Sitting or lying on the floor with a cushion or rug, book resting on the floor</td>
</tr>
<tr>
<td>Standard chairs at standard tables (same size as other Year 2 classes)</td>
<td></td>
</tr>
</tbody>
</table>

The students in Beth’s classroom were observed engaging in structured curriculum activities (such as the R2L program) after assuming their own choice of seating, standing or reclining options. While in these positions, they continued to be physically active, with movements ranging from fine-motor, such as hand gestures and scratching their bodies, through to movements that use major muscle groups, such as pushing down on the floor in a kneeling position, almost somersaulting. Beth was observed to continue on with the lesson content while the students engaged in these behaviours, and although the students were moving, they continued to participate appropriately in the task she was leading.

Beth was also observed using online videos for movement activities aimed *to prepare* her students for learning. She explained “the ‘shake break’ gets them moving up and about and kind of re-jolts their brain into action … they can focus better on what we are doing.” The “Go Noodle” web resource that both Beth and Tessa used involved the students mimicking a choreographed routine. An increase in the quantity of movement was the objective, as usage is tracked by the online resource. This contrasted with the specific curricular goals identified by Sally as guiding the use of movement in her classroom.

Tessa explained that she considered the curriculum “so jam packed … you don’t have time to make it (instruction) as interactive as you like.” Her approach to movement was *to prepare for*, or break from, learning. This may indicate that Tessa believed movement requires time away from the curriculum and that it interferes with the continuity of her core class program. Affirming this, she explained “we don’t have much movement in Year 1, but that’s because of their age, they get distracted if there’s too much interruption.” This was an interesting comment
considering the other teachers view of movement as a concentration primer for subsequent learning, which contrasted with Tessa’s report that movement is a distraction that interrupts her lessons.

**Understanding and interpretation of the curriculum.** A lack of clarity or direction as to what the curriculum suggests for the use of movement featured prominently throughout the teachers’ responses. Tessa said she was “not sure” what the curriculum indicates about incorporating movement into class activities, while Sally reported “I don’t think it goes into it terribly deeply.” When contrasting the clarity of messages regarding literacy practices, such as the prescriptive R2L program, to the vagueness concerning movement, the consequences for classroom practices for those who look to the curriculum for professional guidance are predictably unfavourable.

Tessa stated that some Key Learning Areas (KLAs) are more suited to the use of movement than others; “mathematics, in particular, has a lot of hands on activities.” Beth agreed that “some concepts don’t lend themselves to movement,” taking the idea beyond KLAs to the individual topics included within them. Sally noted an absence of movement: “I find some of the science and history, particularly, you’re just talking at them” and that “in P.E. there’s no dance”. Sally reported that this awareness has led to her incorporating movement opportunities in her classroom wherever she could, which included both planned/curricular and incidental opportunities.

A similar need to increase movement opportunities led Beth, through her own research, to implement “Kung-Fu Punctuation” (Beadle, 2007). This instructional approach uses choreographed arm actions as a mnemonic strategy to recall the punctuation symbols they have been designed to represent. Beth was also observed employing this pedagogical approach to mathematics, where this concept was applied in the form of arm actions to represent the addition and subtraction symbols. Beth described the process behind this practice

Well they’re just symbols that I sort-of made up to help (the students) remember what they look like. I guess in the vein of Kung-Fu punctuation, sort of thing. So, it’s not a program or anything we’re following.
Given the aforementioned lack of clarity and direction for using movement within the curriculum, the teachers’ need to improvise and create their own approaches is illustrated in this instance.

**Beliefs about the nature of the curriculum and the teacher’s role**

Each teacher’s practice was influenced by their view of the nature of the curriculum and their professional role. This was evident in a comparison of the practices of the three teachers, as well as variations within their individual responses. For an example of the latter, the teachers were asked what comprised their ideal teaching practice, and although “movement” (Beth), “hands-on activities” (Tessa) and “given time to participate in the learning” (Sally) were reported, these answers contrasted in varying degrees to the actual practices observed in the respective classrooms.

The teachers were observed applying varying degrees of individual input in their implementation of the curricular requirements, showing that their understanding of the nature of the curriculum varied. Specifically, the teachers’ practice was observed to lie somewhere between a replication of the curriculum as accurately as possible, and a critical evaluation of the curriculum, eliciting the need to rectify any perceived omissions with the teachers’ own pedagogical approaches.

Sally was observed to lean towards the latter, more critical option. As mentioned earlier, she applied her own agency in her pedagogy by applying her “knowledge and experience to throw it in where it’s required.” This process was observed in Sally’s classroom as she integrated resources and learning outcomes from various learning areas into her lessons that included a movement aspect as well. For example, a storybook (Literacy) was used to introduce the concept of sharing/division (Mathematics), followed by hands-on activity (fine motor movement) sitting on the floor (gross motor movement) in pairs (oral language/literacy and interpersonal skills). Preceding this, the “warm-up” consisted of a task where the students moved their bodies while counting forwards and backwards to 20 (Mathematics) and keeping the beat with the video and musical accompaniment (the Arts). Sally approached the challenge of what she described as a “quite overloaded” curriculum by addressing multiple learning outcomes concurrently, using a range of pedagogies that took advantage of her young students’ need for movement.
By contrast, Tessa was uncertain about what the curriculum indicates about movement, as she explained “you don’t have enough time to make it as interactive as you like”. Her efforts to deliver the curriculum as accurately as possible limit her use of movement in her teaching practice. She explained that she adds in movement breaks for her students “every now and then” although these are intended “to get their attention” for the sedentary curricular tasks that followed. While Tessa reported that she does not have time to make her tasks more “interactive”, she may have not yet acquired the “knowledge and experience” to which Sally refers, that would support her to achieve this.

The following sections discuss factors that contribute to the knowledge and experiences of the teachers, and how these may influence their use of movement in their classrooms.

**Beliefs about teaching**

Each teacher’s beliefs about education pedagogy have been shaped in the social world of their past experiences, and this impacted on their observed practice. Therefore, the teachers’ experiences as students themselves, in pre-service teacher training and in past professional roles all contributed to the knowledge and experience on which they base their observed choices regarding movement in their practice.

**Experience - as a student.** Beth’s recollection of her own learning experiences as a student in the same level were notable given her classroom’s recent transition to a “flexible seating” arrangement: “as soon as we hit year 2 it was very regimented. Desks, rows that sort of thing.” She noted that her preschool had included “plenty of outdoor time … action songs and (playing of) musical instruments as well as fine motor activities such as painting, drawing and building.” However, Beth recalled that her primary school was more structured with the fine motor and gross motor activities continuing into Year 1 but finishing in Year 2. We completed Physical Education classes with sports/gross motor activities. I don’t recall doing movement activities in learning in the primary grades.

Beth’s explanation of her current practice reflected on the shortcomings of her own primary school experience
I use the flexible seating because I’m very big on what’s best for the child. And not necessarily what they should be expected to do, but what actually benefits them the most. So I guess in that way I’m kind of a non-traditional teacher but I’m always looking for new and exciting ways to do different things.

Beth’s idea of “traditional” has been shaped by her own schooling experience.

Sally’s recollection reflected the trends of a different era

I remember during my primary school years there was organised movement each morning. The day began with either a run or whole school aerobics (it was the eighties!) at an assembly. Movement during class time was more limited with the majority of the time spent at a desk. High school was quite similar.

Sally recalled a largely sedentary school system; although movement was included, it was not involved (or integrated) in the learning process. The value of movement is acknowledged on a whole school level, but is not the responsibility of the class teacher.

The experiences of the teachers’ own schooling contributed to the knowledge they bring to their classroom, particularly in regard to their model of what is expected regarding the way movement is used in the classroom. The teachers’ recollections showed that their experience of movement was primarily outside the classroom, was not linked to curriculum and was not the responsibility of the classroom teacher.

Originating in the teachers’ own schooling and co-curricular experiences, the skill level of the teachers themselves was a factor in their use of movement in their classroom practice. Their own competencies and confidence in movement is a factor in their choice and ability to model movement for their students when leading tasks. It was noted that all the teachers studied used video characters to model movements for them, and they generally did not join in performing the actions, suggesting a lack of confidence, competence or eagerness to engage in movement themselves.

**Experience – Pre-service teacher training.** Similar to the experience of the teachers’ own schooling, the teachers’ pre-service teacher training contributes to the knowledge and skills they bring to their classroom, particularly with regard to the
theoretical foundations and corresponding pedagogical practices. Therefore, the contrasts between the use of movement in the classroom practice of the Early Childhood Education (ECE) trained teachers, Beth and Sally and the Primary trained teacher, Tessa, was considered significant.

Beth and Sally, both ECE trained, showed a higher value of movement in learning in their responses and in elements of their practice observed. For example, Beth’s knowledge of early childhood principles and how they played a role in her use of movement in her Year 2 classroom was evident in her comment, “the early childhood philosophy, you know, talks about movement and engaging and hands-on … I just don’t see the point of not using that best practice all the way through.” In this response, Beth grappled with the curricular requirements that don’t reflect the ECE philosophy she had studied in her pre-service teacher training. But her interpretation of the curriculum, she reported, is that it is “rigid” and it must be followed.

Sally, also ECE trained, attributed her students’ noticeably diminished motor skill levels to a lack of movement experiences. This knowledge informed Sally’s practice and was observed to have a direct impact on the use of movement in her classroom, as she explained:

I’m noticing with this group of children … the letter formations are still a bit lazy and their hand movements are still a bit sloppy, so anything that strengthens their muscles for fine motor, I think they need a lot at the moment … to build up that muscle strength … before they even hit a book.

Sally’s practice demonstrated an appreciation for the foundational skills on which later achievements are based. For Sally, these beliefs have led to a clash between the nature of the curriculum and her knowledge of the play-based (and movement-rich) pedagogy that is integral to early childhood philosophy:

I still just think that they’re not ready for this amount of learning in this amount of time. … I know that I’m teaching the grade and it’s still not something that gels particularly well with me, that it’s so structured. … I still think there needs to be more time in there for more released, more creative play, and I just don’t think they get it. We don’t even have outside playtime … I think that’s just something that’s really missing.
For Sally to note this absence from the curriculum or pedagogy, she had to first be aware of its existence, but here she also implied the she assigns a high value to this type of learning for her class. Sally’s ECE background appeared to have contributed to her beliefs in this regard.

In contrast, Tessa’s initial teacher education program for Primary and Middle Years qualified her to teach grades Prep to Year 9. Sally’s aforementioned high value of movement in learning contrasted with Tessa explanation that the reason for so little movement in Year 1, is “purely because of their age, they get distracted if there’s too much interruption.” In Tessa’s class, movement was used primarily as a break (the activity observed was called a “brain break”) and as discussed previously, Tessa’s interpretation of the curriculum offered less room for her own input: “Before C2C there was more fine and gross motor skills… now I don’t think the curriculum allows for that.” Tessa also stated “there’s not too much time to get out of the classroom and do skills like that, otherwise you fall too far behind”, implying that she believed movement is something that happens outside the core curriculum, rather than being an integral aspect of the classroom program.

During both lessons observed by the researcher, Tessa sometimes displayed behaviour that could be interpreted as signs of frustration with the students’ reluctance to be still when they were supposed to be listening or addressing her. This was evidenced by her tone of voice, facial expressions, and interactions with students. For example, a student was told he was “not making good choices” when he had provided an appropriate answer to Tessa’s question, but with physically and vocally animated mannerisms. The behaviour of Tessa’s Year 1 students was observed to be similarly as lively as the Year 2 students in Beth’s classroom, where the frequent incidental movement was accommodated. Beth described her stance on this topic, and again her ECE philosophy is evident; “they’re still little, they still need to move … I’m very big on what’s best for the child … not necessarily what they should be expected to do, but what actually benefits them most.”

**Comparison of CHAT models by teacher-training background.** A comparison of each teacher’s CHAT model (Appendix J) showed that the contrasts between the ECE-trained teachers and the Primary-trained teacher were primarily evident in the *Tools* and *Division of Labour* nodes. Regarding the teachers’ decisions in the use of tools in their movement practice, Er (2014) notes that when applying CHAT it is
vital to acknowledge and account for the viewpoint of experts in the related field of work … (because) the tools which influence a subject have been developed by the subject or other people who have previously worked in the same context. (p. 23)

The tools the teachers were observed to use have therefore been developed through the prior experiences of both the individual teachers but also the past influences upon the teacher training programs (ECE and Primary) attended by the teachers.

Beth and Sally, ECE trained, used tools associated with managing the whole group in curricular activities to promote movement opportunities for their classes. During whole group curricular instruction, Tessa’ movement opportunities for students were incidental or functional, and limited to one at a time, such as “going up to the whiteboard to work out a sum”. The main difference was in the purpose and value of movement. Sally reported the role of movement in her classroom as “for something more purposeful … other than I need to go to the toilet”. For her, movement is itself a tool for learning. Beth, with her use of Kung-Fu punctuation and flexible seating, used movement in similar ways to Sally. Movement was a tool for learning but also an aspect of age-appropriate behaviour that had to be accommodated for when other tools for learning were used. When Tessa discussed curricular movement in her classroom, she referred to the use of concrete manipulatives, with these resources being the “tools” and the movement aspect a by-product of interacting with these resources. Movement was viewed as an alternative rather than an initial tool for instruction: “if there’s something they don’t understand, I might get them up”, while Tessa acknowledged that “they get engaged more” when they do “get up”. Accommodating for the young students’ need for movement meant having a “break” from the curriculum, which may make it a less preferable option given the pressure of a high workload and limited time.

The CHAT node Division of labour also revealed variance among the teachers (Appendix J). While most movement activities were predominantly teacher (or video) led, the classrooms varied in the degree of responsibility the students were given, where they could apply their own thinking and creativity to their movement. In primary-trained Tessa’s classroom, there was a high value of listening, with the students cast in the role of receivers of information. This teacher-centred theme was reflected in the “brain break” movement activity that required the students to mimic the onscreen character. This low level of creative involvement by students was evident in their lack of stamina
and waning interest, with Tessa having to stop the video to give instructions for the students to mimic the on-screen character accurately. The other movement activities described by Tessa as occurring at other times in her classroom also did not include creative input from the students.

**Experience – teaching.** While the teachers’ initial pre-service education contributed to the theoretical basis of their practice, their subsequent classroom experience and professional learning expanded on these ideas. Beth reported how these factors contributed to her use of movement in her previous, lower-level demographic school post, where she taught Prep

> we were trained in a program called *Jump into number* … it was about finding ways to get the children up and moving because they had found that the children were achieving better results because they were remembering it with the movement.

This previous setting also adopted a “mandated outdoor time” gross motor program due to “a big downfall in gross motor skills of our preppies coming in,” as Beth recounted. These movement-rich initiatives were intended for prep only, and as Beth now teaches Year 2, she lamented their absence

> These kids are … only 2 to 3 years older than those kids, and they’re still developing, their brains are still growing, so why do we suddenly expect them to be able to sit and work? …they still need to move, and I’ve just seen the great benefits of prep, and I think it’s so sad that we lose them as we move up.

Sally noted a change in the perceptions of movement and student engagement in learning over the course of her 21-year career. She commented, “if (the students) want to lie down, I don’t have a problem with that. Whereas earlier – back in the day, that would have been very frowned upon.” She later indicated that this behaviour was task specific, and still heavily mediated by the teacher. She reported

> the expectation (is that) when we are having a short instructional period … you can sit for that length of time, you will have your eyes on me, you will be listening and you won’t be talking to the person beside you. And if you’re rolling around in the back, or slugging around on the floor, as they were calling it, then you can’t be doing all those things that you’re expected to do.

Sally implied that lying down is still unacceptable at certain times. While she allowed this behaviour when her students are working on the floor, her comments
affirm that is the teacher who mediates the expectations regarding such movement in their own classroom.

Tessa, whose past teaching experience was with older rather than younger students, did not refer to this experience as being relevant to her use of movement in her classroom practice. This suggests that the movement practices resulting from early years teaching experiences are more likely to be brought ‘up’ to higher year levels than around the other way.

**Professional development and movement practice.** The teachers recounted very few professional development (PD) opportunities during their career that involved movement and the curriculum. During Sally’s 21-year teaching career, she could recall “years ago when I was at another school we did … a PD day, I think it was called Brain Gym or something along those lines, but apart from that I can’t think of anything.” Beth mentioned, “I did go to a really great OT (Occupational Therapy) PD all about movement in the classroom, more focused toward … children with special disabilities (but) nothing really around movement and the curriculum.” Tessa’s recent PD training, for mentor teachers, incorporated movement “to help beginning teachers so that they knew to move around the classroom” therefore the emphasis was on monitoring student behaviour and task engagement. Mention of pedagogy for movement within the core curriculum was absent from all the examples.

The teachers also reported low levels of interaction between staff across year levels, which may influence the sharing of movement-based practices. Beth stated “you only tend to see your own cohort” and Sally suggested that she was largely unaware of the other teachers’ use of movement, and therefore “I think we could really benefit from that opportunity to visit other teachers and see their practice.”

The shortage of professional development opportunities prompted Beth to pursue resources such as the “Kung-Fu” punctuation strategy (Beadle, 2007) and the flexible seating approach, and this research was stimulated by her knowledge of students and their need for constant movement. The teachers’ knowledge of classroom movement practices was largely self-initiated and therefore lacked the rigour that should be present in the practices promoted in professional learning opportunities.
Classroom management and movement. When discussing the challenges of using movement in their classroom practice, classroom management and associated beliefs about control was apparent. Tessa reported “if there’s movement in the class you can’t monitor everyone, the noise level gets out of control and if the noise level gets up the behaviour escalates as well.” Beth described the challenge of “bringing them back from movement … before we put in our routines and procedures, they were very difficult to get focused after a movement break.” Sally agreed that “it can be sometimes difficult to bring them back calmly into the flow of the lesson,” adding that the time taken to “get them back” becomes a disadvantage as the result of an “overloaded” curriculum. However Sally also discussed some benefits of movement for classroom management; “we started with a (movement) warm-up because … I knew that (this) would engage them back in quickly”.

Sally described the dilemma of wanting to address the students’ need for creativity and movement, while maintaining effective control of her prep class:

I could do a lot more than what I do. I think they do cry out, sometimes if we are having a dance, I can be a bit reluctant to put on anything other than a ‘just dance’ (video) for kids, where they have the actions already for them. And I need to let go sometimes and say okay, they just need to dance. They just need to have their own time to move their bodies in the way that they want to, at that time. That’s when I sort of panic a bit and think “oh it can all get a little bit out of control.” But they’ve shown me that it doesn’t, so that’s me needing to let go of that control issue a bit, and probably do more of that.

Among the three teachers, Sally’s awareness and critical reflection regarding control was unique. She suggested where the need for control might originate: “I think it’s been more that traditional ‘they’ll all sit up’ … Whereas earlier – back in the day, that would have been very frowned upon if admin walked in and everybody’s lying around and slobbing around on the floor.” Here, Sally indicated how the historical context of the “past practitioners” (Er, 2014) might still influence teachers today, as it did for her in the earlier stages of her career.

Skill in facilitating movement-rich pedagogies was a factor closely related to classroom management for movement. While the teachers’ beliefs regarding conceptions of control are relevant, this perspective works in combination with the teachers’ skill in applying their knowledge of effective group management before,
during and after movement activity. Individual teachers vary in their proficiency of classroom management for movement activities. The level of efficacy they achieve then impacts on their future choices of whether they will use movement or not. The evidence suggested that the teachers lacked confidence regarding their proficiency of these skills, in that they all considered the classroom management aspects of movement tasks to be a challenge for them.

**Beliefs about children’s learning and behaviour**

The teachers were asked to describe how “children learn best” with the question intended to elicit beliefs about children’s learning without the confines of other contextual factors the teachers take into account in their practice. In each response, the teachers reported the ideal circumstances require children to be engaged in some activity, in the sense of being actively involved in “doing” (Beth), “participating” (Sally) or “hands-on (with concrete manipulatives)” (Tessa). Nowhere in the responses were the students cast in the role of receivers of information. Sally specifically addressed this point: “(Children learn best) when they’re not just being talked at, but they are given time to participate in the learning, as well.”

The responses to the question “Children learn best…?” were compared to the teachers’ observed practice and other interview answers. The contrasts that were revealed demonstrated a wide variation in expectations of age-appropriate behavior in regards to movement in the classroom. These again showed distinct patterns between the ECE and Primary-trained teachers.

**Expectations of age-appropriate behaviour.** Beth and Sally, who are ECE trained, both made mention of a lack of movement in the curriculum, and justified the reasons why more was required by expressing their understanding of the students’ age-appropriate needs. The more experienced of the two, Sally, was observed to use the most diverse methods to integrate movement into her classroom practice. Beth expressed her understanding of age-appropriate behavior; “It’s not to my benefit to have them stand still or sit still, because they’re … going to be focused so much on keeping their body still than on the actual learning.” Yet she does expect the students to be quiet; “I run a very strict ship, I know that I’m a strict teacher in my quietness of the classroom … I mean we have talk to your neighbour time, and they can get quite noisy, but I like a nice, quiet classroom.” When
compared to Beth’s ideas of how “Children learn best when … they are moving and also when they’re engaged in what they are doing,” this engagement comes with a caveat of being quiet: “if they’re not disturbing the class or they’re not disturbing someone near them, that’s fine for them to (move).”

Contrasts were evident in Tessa’s application of her expectations of the children’s behavior in regards to small movements she referred to as “fiddling” or “fidgeting”. While Tessa acknowledged her own need for these movements; “I get fidgety … sometimes I have to do it to keep my concentration”, her view differed when the students performed these actions; “usually if they don’t understand, they are fidgeting or just not paying attention.” This was further associated with “being sneaky … like if they’re fidgeting they’re not going to be listening” and Tessa describes her need to “move around the class to keep an eye on everyone, and if they know I’m moving they are less likely to be sneaky and fidget.” Tessa’s description of the students’ behavior as “sneaky” implies she distrusts their motives, to some degree.

**Beliefs about students’ role in their learning and behavior**

Each teacher’s use of movement was observed to relate to their stance on their student’s role in their own learning. Specifically, the teachers varied in the level of trust they placed in the student’s ability to direct their own actions. This is exemplified in a comparison of beliefs about “fidgeting”. Beth explained that she provides “a box of things that the kids can play with if they need to.” In her view, the students will be able to use them responsibly and at their own discretion, whereas Tessa associated fidgeting with “being sneaky” and not listening to her instruction, indicated a different view of students’ level of responsibility and trust.

Sally’s practice and responses demonstrated her awareness of valuing the student’s role in their own learning, but also the challenge this presents to her need to maintain control of her class, as mentioned earlier.

The *division of labour* node in the CHAT model for each teacher (Appendix J) revealed that the issue of teacher control (with its historical origins, as Sally raised) conflicted with the responsibility being granted to the student for their own learning and behavior. As illustrated in the examples above, the balance of control between the teacher and their students varied.
**Contextual Factors**
The contextual factors identified impacted all the teachers and classrooms in the study, with each responding to them differently, according to their individual knowledge, skills and beliefs. Again, curriculum requirements being applied from within and outside the individual school setting are a significant influence on the teachers’ use of movement. The pedagogical requirements to deliver the curriculum similarly stem from internal and external sources. However, the physical resources in the school setting also have significant implications for the teachers’ use of movement in their classroom, as these tools mediate the implementation of the curricular and pedagogical requirements. Finally, the input of the students in the teachers’ use of movement in their classroom is a significant but largely overlooked contextual factor. Note in the representation contextual factors (Figure 4.3), rather than the students impacting upon any of the other factors, all the factors impact upon them.

**Curriculum Requirements.** The data indicated that the use of movement appeared to be influenced by internal, such as school adopted packaged resources, and externally applied curriculum requirements such as C2C materials.

*Internal curriculum requirements - Reading to Learn.* Tessa and Beth were both observed teaching the “Reading to Learn” (R2L) literacy program in their Year 1 and 2 classrooms respectively. While Beth applied her “flexible seating plan” during the lesson, the students’ movement had not been considered or catered for in the pedagogy of this approach. Beth reported on how this program impacts her ability to integrate movement into her practice, “The model of read to learn … it’s very structured and there’s a certain cycle that we have to follow in our English units, so it doesn’t give a lot of options to be flexible with it.”

Beth’s class had been engaged in a “Detailed Read” activity, and indeed the information available from the program website does not specify any elements of classroom organization that promote student movement (Reading to Learn, 2016). However, the sample lesson provided online does highlight the textual elements of “movement and sounds” (p. 5), specifying that the text was chosen to include “images and feelings (that) are enriched by the variety of movements and sounds” (p. 6). So while these concepts have been noted as important in developing skills in comprehending the text, any physical or aural engagement with these movement and
sounds is not indicated. Rather, this implies these are intended to be presented as abstract concepts in this context.

Despite this intention, several students were observed engaging in their own physical representation of the new language they were learning. For example in Tessa’s class, the students struggled to understand her explanation of the phrase “hold your breath” until one girl closed her mouth and puffed out her cheeks. Upon seeing this action, the other students expressed their understanding (through nodding and confirming language) with a couple of students trying it themselves. In this instance, the girl had briefly become the leader in what was previously a teacher-directed lesson. The same pattern occurred again when another student illustrated the term “companion” by pointing to their friend, although this was disregarded by the teacher in her response, “I know who your best friends are, I see them every day”.

Later in this lesson, Tessa was observed using physical movements to augment her own use of language and support the students’ understanding (she held her arms outstretched to explain “breadth of the country”). However during the interviews, Tessa did not recall this as a way in which she used movement to support her teaching. This may suggest that this element of her teaching practice is not acknowledged. This oversight corresponds with the lack of acknowledgement of the use of movement in the pedagogy of the R2L program.

*External curriculum requirements – C2C.* The *Curriculum into the Classroom* (C2C) resource was developed by the Queensland Government (Department of Education and Training) to support State School teachers in their implementation of the *Australian Curriculum*. All the participating teachers mentioned C2C as placing limits on their use of movement in their classroom practice.

Tessa reported that the prescriptive nature of the C2C planning materials has impacted on the time allocated for fine and gross motor activities. Beth agreed, reporting that C2C is “not very conducive to having any sorts of movement.” Sally reported using the C2C materials as a reference rather than a pedagogical or prescriptive teaching tool. She reported that the outline was all that was needed to prompt her to “get the gist of what’s required” therefore leaving her space to include content-rich movement opportunities accordingly.
While the use of the *Australian Curriculum* is mandated at *Central State School*, the way in which the teachers use the C2C materials to deliver it is an individual decision. In this respect it is the knowledge and skills applied during the decision making process that influences the teachers’ use of movement, rather than the curriculum itself.

**Pedagogical requirements.** Several school based pedagogical requirements were observed to influence the teachers’ use of movement in their classroom practice, and these are detailed below.

*Silence, attention, stillness (SAS).* All the teachers were observed in their classroom wearing a castanet on their lanyard. This was used (clicked) in a similar way (by all teachers) to indicate to the students when it was time for them to listen. Sally explained,

> It's a school-wide program, so the first click is “Silence” so the children have to put their finger to their lip, and it’s supposed to be slow, not (clicks castanet fast). …So step 1 is silence, step 2 is attention so you put your fingers to the eyes, so they are seeing the visual movement as well. And Step 3 is still, hands on heads. The acronym is SAS.

The existence of a school-wide approach for stillness, silence and listening (in most cases, to the teacher’s voice) is in contrast to the lack of guidance, direction or mention of a school-wide approach towards movement. The decision by the school to adopt the SAS approach could further relate to the perception of the overloaded curriculum, and the control required to be maintained by the teachers to “get through” what they need to do. Sally identified that this comes at the price of taking the time to encourage the student’s creative input.

**Gradual release model.** The role of listening features prominently again in the school-wide application of the “gradual release model”. Beth explained

> Listening is … very important. We do a lot of explicit instruction here, I guess that in the research of the world, they found … if you do an explicit instruction first, the children are more likely to retain it, so we do an “I do” where I’m explicitly teaching, a “we do” when we do it together and then a “you do” where it’s a gradual release of responsibility. So, it’s vital that they’re listening and engaging in that first section, to get the foundation of what we’re talking about.
This explanation showed the high value placed on teacher modelling, and on the teacher as the primary source of information. If the teacher’s model doesn’t include a movement aspect, movement will likely be unacceptable (or at least, not expected) in the following stages as well.

The three teachers’ classroom management approaches placed strong emphasis on the students’ ability to listen to instructions and follow teacher direction. Sally described what this meant in her classroom “I do, I have a turn at talking (then) we do …sometimes I say “turn to your elbow buddy” and tell them what you think, or show them on the whiteboard … then the you do– back at your table.” Beth’s movement activities also focused on the “I do” aspect of modeling where the goal is to mimic the teacher’s actions as closely as possible. The teacher’s direction was still paramount, and Sally reported how this differed from her own knowledge of the value of the students’ creative input: “I need to let go sometimes, they just … need to have their own time to move their own bodies in the way that they want to.” The value that Sally and the other teachers gave the students’ input, moreover the trust they placed in the student’s decisions made for their own learning, is a significant theme expanded upon earlier in this chapter.

Physical Resources

Sally raised the challenge that the physical classroom setting presents in her decision to encourage free movement

we’re in a small classroom in a demountable. There are very little walls between us and the next classroom so I think I’m aware of noise … if they are jumping or bouncing then the floor does reverberate and … it’s quite loud next door.

This comment assumes that the class next door needs quiet to work effectively as well. The origins of this assumption may be found in the historical reference in Sally’s explanation of where she believes the need for the “traditional” teacher control stems. The physical environment of the classrooms observed reflected this traditional form, in the aspects of room size, furniture arrangement and provision of resources.

The flexible seating arrangement of Beth’s classroom was an anomaly within the school, and she was required in the process of trialing her idea using makeshift
furniture, such as cushions on milk crates. At the time of writing it is unknown if this will be implemented across further classrooms.

While the technology resourcing of the classroom has changed in recent years, the way that these technologies were observed being used was often similar to what was possible with a non-mechanical version. For example, greater teacher convenience is achieved by connecting the white board to the computer but this was more interactive for the teacher than the students. Showing video clips on the whiteboard gets students moving but allows little interaction with the technology or each other, apart from recording the quantity of time. Moreover, the teacher avoids participating as they are not required to model the actions, which impacts on the prospective benefits of teacher/student interaction possible without this technology.

The school itself was viewed as supporting this movement by providing resources to the teacher in the form concrete materials, as reported by Tessa. The perception that movement needs to be “hands-on” may be implied, and therefore requires physical resources. The implication is supported by Tessa’s comment that movement was considered more suited to the learning areas of maths and science, for which materials were provided.

**Students**

The observations of the students’ behavior are significant as they represent arguably the most important members of the *community of practice* (see figure 2.4). In all of the classrooms that participated in this study, the students were observed taking every opportunity to move, regardless of how brief (in time) or how limited (in nature) the movement possible. For example, even when seated, the students would use their arms for fine and gross motor movement, scratching, reaching (not necessarily for any item, but stretching into the air) or making animated facial expressions that were unrelated to any social interaction. In one notable example, a Year 1 student made a wolf-like howl, while seated at his desk, midway through a worksheet-based assessment task. He engaged his face and upper body in the action, but was careful to “howl” at low volume, presumably to avoid the teacher’s attention. Minutes later, he put his hand up and asked the teacher if he could get a drink, which was an acceptable way he could be permitted to get out of his seat and move. This student exhibited that the need for movement and self-expression continued despite
the assigned task requirements, and aspects of his actions suggested that he was aware that his wolf-like behavior would be construed negatively in this context.

Synthesis of findings

The aim of the study was to identify the factors that influence junior primary teachers’ use of movement in their classroom practice. Listed below are the four research sub-questions and the corresponding findings from the results presented in this chapter. Each theme or sub-theme identified was found to be complex within itself, and the relationship between these themes is evident in the findings below.

1. *What factors from within the individual teacher influence their use of movement in their classroom practice?*
   - Beliefs and knowledge from experience as a student; recollections of deskwork, movement conducted mostly outside of the classroom and lacking relevance to the curriculum.
   - Beliefs from experience as a pre-service teacher; ECE-trained - ideological mismatch with the structured curriculum; Primary-trained – closer ideological match with structured curriculum.
   - Beliefs from experience as a teacher; noted historical changes in student skill level, comparison of student expectations in year levels.
   - Possession of skills and knowledge to support the use of movement in their classroom practice. Agency in viewing of self in the teacher’s role was needed to initiate the application of these.
   - Knowledge of the role of movement in child development, and applying this to age appropriate expectations of student behaviour and learning.

2. *Which curricular outcomes do teachers use movement to achieve, and what pedagogical and physical tools do the teachers use in this process?*
   - For numeracy outcomes, manipulation of concrete materials (fine motor) and body movements (gross motor) are used.
   - For literacy outcomes, activities are structured so incidental movement can occur while working. Except for handwriting, with fine and gross motor activities.
Teacher movement (gesture) is used to support new vocabulary development, and to monitor on-task behaviour.

- Online videos with musical accompaniment were used to guide content, skill development and to give students a break from structured and sedentary activities.
- Integration of different KLAs was used to teach many curricular outcomes in less time, with movement used as a tool in this process.
- A choice of adapted furniture was offered to accommodate incidental movement during teacher-led lessons.

3. *How do rules and the school community influence teachers’ use of movement in their classroom practice?*

- The implementation of the content-rich, structured *Australian Curriculum* deters teachers from using movement in their classroom practice.
- For C2C and R2L, movement is absent from the pedagogical approaches recommended. C2C is applied by the state government and is more flexibly implemented at this school, than is the school-applied R2L program.
- SAS is applied by the school to support the delivery of the *Australian Curriculum* in the form interpreted through C2C, and the structure of R2L.
- The students continued to engage in intentional and incidental movements regardless of the lesson content. The application of the students’ creativity was evident in these movements.

4. *How is the division of labour applied in movement-based activities?*

- Teacher (or a video character) leads and students follow much of the time. Few aspects of the activities are student-led.

**Conclusion**

The analysis of the data collected in this study identified individual and contextual factors that influenced the teachers’ decision-making process in the use of movement in their classroom practice. Particularly, the individual teachers’ beliefs, knowledge and skills impact upon their interpretation of the external and internal curriculum requirements applied in their school. The level of agency that the teacher applies in interpreting the curriculum appeared related to the use of movement in the classroom.
This could be due to the absence of attention to movement in the pedagogy of prescriptive curriculum documents. If movement was to be included in their practice, the teachers were required to source or develop their own resources to achieve this. The teaching philosophy developed as part of the teachers background, particularly in their own schooling and pre-service teacher training, was implicated in the way they view and therefore use movement in their classroom.

As expressed in the CHAT framework applied in this study, a symbiotic relationship between the individual and contextual factors was evident. The individual factors were shaped by contextual influences of the past and present, particularly the internal and external curriculum and pedagogical requirements. The students’ input into the teachers’ practice was a significant factor, as they were observed to move almost constantly, regardless of whether this encouraged by their classroom program. This was either encouraged by the teacher through integrating movement into curricular activities, or discouraged in the design of activities that ignored this need.

In the next chapter, these findings of the study are discussed in relation to existing literature, along with implications for key stakeholders and future directions for research.
Chapter Five: Discussion and Conclusion

Using a single-site case study approach, this project examined the factors that influenced three junior primary teachers’ use of movement in their classroom practice in an urban Queensland state school. One teacher from each of the three junior primary levels participated in two rounds of classroom observations and follow-up, semi-structured interviews. The study examined the teachers’ actions in context, applying the framework of Engeström’s Cultural-Historical Activity Theory (CHAT) to explore the factors that influenced the teachers’ decision-making process in using movement in their classrooms.

As reported in the previous chapter, this study identified five individual factors and three contextual factors influencing the teachers’ use of movement in their classroom practice. In this chapter, the factors are discussed with reference to the existing literature, followed by the limitations of the study, the implications for key stakeholders and directions for future studies in the field.

Overcoming barriers: Teachers’ input into their Movement Practices

A key finding was that the teachers reported that their use of movement was limited or restricted by the curriculum. Implicit in the contention that movement is limited or restricted in the teachers’ opinion, is the acknowledgement that more movement is required in the classroom program and that there would be benefits to the students if more movement was possible. From the perspective of supporting learning and cognition, Blakemore and Frith (2005) and Ratey (2008) affirm the research basis of the teachers’ views, citing evidence that connects movement to enhanced cognitive function. The students’ behavior indicated the need for increased movement levels in their classroom. In all of the classrooms observed in this study, the students took every opportunity to move as they were seen stretching, swinging, gesturing or adding a skip or dance into a locomotive task. This occurred regardless of whether movement was an intended feature of the task they had been assigned.

Movement and active participation featured prominently in the teachers’ views of how children learn best, reflecting the literature (DET, 2016; Pica, 1997; Wood, 2008) and the observations of student behaviour (see Appendix G). However, the teachers’ practice was observed as being primarily aimed at academic outcomes, that is, curriculum-driven, with movement included only at the teachers’ discretion rather
than as the result from any curriculum or school directive. The only motivating factor to include movement was, as Sally reported, her own “knowledge and experience” of her students’ need to engage in movement beyond the scope suggested.

While all the teachers cited “the curriculum” as limiting their use of movement for the students in their classrooms, the variation in practices observed led to the conclusion that it is not solely the curriculum itself but also the nature of the teachers’ interpretation of it that has implications for their use of movement in their classrooms. Ewing (2010) affirms that “the teacher’s conceptualization of the curriculum … will impact directly on how they decide to implement and structure the curriculum and learning experiences in their classroom” (p. 40), and the role of movement in that conceptualization is of key interest here.

The variation observed in the teachers’ practice was most evident with regard to the authority that each individual attributed to curriculum guidelines. A reduction in authority accorded to curricular Rules (see Figure 2.4) was needed to initiate the application of the teachers’ own pedagogical knowledge, providing the teacher has the appropriate knowledge or skills (Tools, see Figure 2.4) at their disposal. As Sally’s case showed, the reduction in authority she had given the C2C guidelines enabled her to include regular movement opportunities in her practice. The use of the word opportunity here is significant, in that the presence of such opportunities does not imply that they are necessarily taken.

The teachers’ decision-making process that led to the level of authority they attributed to “what the curriculum says” (Beth) was influenced by the curricular guidelines made available to them. Therefore it was noted that while DET (2017) claims the C2C materials were provided as a starting point for teachers to adopt and adapt to suit their class and context, adaption was the only option for teachers to include movement. If C2C lessons are adopted in the form supplied, they are unlikely to include any movement component in their pedagogy, as the Australian Curriculum from which they derive has assigned physical education (bodily movement) to the HPE learning area. However Sally explained that she adapted the C2C materials to include movement. Evidently, adopting C2C is unlikely to extend the teacher’s pedagogical knowledge beyond what is provided in the materials, but adapting (more likely) will. Bauml (2016) asserts that making such adaptations to a curriculum is “one of the most fundamental aspects of teaching” (p. 76) and notes the
onus on pre-service teacher training programs to support such development. This corresponds with Barton, Garvis and Ryan’s (2014) analysis of the impact of C2C in Queensland schools in reducing teachers’ opportunities to develop the skills to work independently of such supports.

The “good teacher, good students” barrier to classroom movement

The teachers’ beliefs about teaching were identified as a factor in their use of movement in their classroom today. Their early experiences with movement in school settings were identified as especially significant, as Pajares (1992) explains “teachers develop their educational belief structure as children” (p. 310). Perhaps of greatest consequence in the teacher’s own school experience is not just how movement was used, but how it wasn’t. That is, to what degree did “good teaching” and “good learning” in their own schooling include non-active aspects such as stillness and compliance. Echoes of the historical dominance of “desk work” and movement excluded from the classroom program could be seen in some aspects of the teachers’ practice observed in the current study. As Resnick (2010) contends, while the content in schools has evolved throughout time, methods of teaching and learning in the classroom “remain remarkably unchanged” (p. 183).

The historical causes that have contributed to the exclusion of movement from classroom practice are well documented (Jenner, 2005; McClelland, Pitt & Stein, 2015; Ratey, 2008), so the current study looked rather at how teachers included movement in their practice despite challenges. The results showed that the inclusion of movement involved a reduction in the authority given to curriculum directives, driven by a critically reflective process that deemed these directives unsuitable, thus creating room to fit movement activities. But for movement to find a place in this void, the teachers’ beliefs about children’s learning and behaviour, particularly an acceptance of movement as integral to learning, need to outweigh any beliefs about “good teaching” that promote stillness, control and compliance. Sally’s case is pertinent here, as she took the most opportunities to use movement for the widest range of purposes. She also reported the value of the students’ input into their creative process, and her understanding of their behaviour; “I don’t think I could keep them still”. Therefore, the impetus for movement in her practice is acknowledged and as coming from the students, reflecting Sally’s knowledge and valuing of age-appropriate practices.
Pre-service teacher training: The ECE versus primary barrier

The teachers’ pre-service teacher education contributes to the formation of the structure of their educational beliefs (Pajares, 1995). Therefore it was significant to note that contrasts in the teachers’ beliefs about the role of movement in learning reflected their ECE or primary teaching pre-service qualification. This disparity corresponds with Petriwskyj, O’Gorman and Turunen’s (2013) description of the contrasting ideological perspectives on which the Early Years Learning Framework and the Australian Curriculum are based. These authors go on to note that where teachers from both disciplines work across the early years classes, the differences in ideological positions cause tensions that creates challenges alongside opportunities to “devise coherent solutions” (p. 18), with Beth’s flexible seating plan and Sally’s integrated approach examples of such innovations.

Therefore if movement is construed as having implicit benefits for the students, and the students are valued, then movement is more likely to be utilised in the teacher’s classroom practice. This was evident in the ECE teachers’ practice whereby, in the absence of any recommendations to include movement, they found innovative ways to achieve this on their own. The primary teacher also included movement without set recommendations, but this was peripheral to the core classroom program.

The inception of the Age-appropriate Pedagogies for the Early Years of Schooling project (DET, 2015) indicates that even experienced teachers need guidance and support on how to interpret the curriculum guidelines in a suitable way for the young students they teach. The results of this study confirmed that it cannot be assumed that teachers are aware of these practices, or that they will make the adaptations to curriculum that Bauml (2016) suggests are fundamental to the teachers’ role. Supporting this finding, Bauml’s (2016) study of early years teachers use of standardised materials found they “never questioned the logic of centralised curricula and accountability” (p. 89) but they did adapt, augment and extend upon it by applying their own knowledge and skills.

Where should teachers be “throwing it in”?

Sally’s explanation of where movement “fits” in the curriculum seems innocuous, but it is steeped in meaning for the purposes of this study. Her comment “I think it’s
up to teachers’ knowledge and experience to throw it in where it’s required,” draws attention to concurrent need for teachers to have adequate “knowledge”, which comes from “experience” of some type, to then also know “where”, and when, movement for their young students “is required”. “Throwing it in” alludes to the informality of the process, which reflects the absence of official guidelines for practice discussed earlier.

A thorough knowledge of curriculum content and an appropriate pedagogical repertoire is needed to support the teachers’ adaptations to include movement in their practice. However, the structured nature of curriculum guidelines influences this, hampering the development of “a pedagogy of repertoire, evidence and principle, rather than mere compliance with habit or official fiat” (Alexander, 2013, p. 3). Knowledge of students and age-appropriate expectations are interrelated here, with the example of Sally in this study suggesting possible causal links between years of teaching experience and a deeper knowledge of curricular content combined with enhanced ability to adapt the curriculum and draw upon a wider range of pedagogies for movement. As Luke (2010) contends “specific knowledges and skills can only be “named” in official curriculum documents at a level of technical abstraction … They are remade through the lenses and practices of teacher’s substantive world, field and disciplinary knowledge” (p. 1-2). Given that the teachers were largely unaware of what the curriculum does indicate about using movement in their practice, theirs was not a process of “remaking” but rather “making”, based on their own knowledge and experience, as Sally suggested.

The teachers’ own skill level of movement was also relevant when considering the power of modeling in teaching. For instance, the structured nature of the Reading to Learn program promoted the value of teacher modeling of desired behaviours, yet for movement, the teachers relied on the video character to provide the model. Indeed, any benefits of social interaction in the movement activities observed were limited as none of the tasks were co-operative in nature (Shoval & Shulruf, 2011; Worrell, Evans-Fletcher & Kovar, 2002). The dominance of video-led, whole group activities revealed the limits of the teachers’ pedagogical approaches for using movement. This exposed a contradiction between the teachers’ descriptions of children learning best through active participation, and activities that got students moving but still cast them in passive/follower roles. The contention that teachers
think of engagement as participating in teacher-selected learning activities, carried out according to their expectations but for students was affirmed in this case (Stephen et al, 2008). While the student perspective, Martlew et al. (2011) contend, comes “from active involvement, autonomy and the opportunity for choice” (p. 71). Aside from physical activity, opportunities for choice in the movement tasks observed were limited, and again the teachers’ knowledge and skill level was implicated in this aspect.

The results indicated one particular reason why choice and interaction between students in movement tasks might be limited in the teachers’ classrooms. All the teachers studied reported classroom management concerns, namely the challenge of bringing the students “back” after movement, from the excitement and energy generated by movement-based activities to the calmness of the “flow of the lesson” (Sally). This implied that movement activities were either considered best avoided, or that the teachers’ lacked the skill or confidence in achieving this type of group management effectively. Certainly a lack of experience in managing physically active lessons would contribute to the teacher competency levels.

The concept of bringing them back should also be brought into question, in regard to confirming the value of what it is that they are coming back to. The observations suggest that this was back to the teachers’ control, evidenced in Tessa’s comment “if there’s movement in the class, you can’t monitor everyone and the noise level gets out of control”. Looking to the past indicates the historical basis upon which the need for teacher control stems.

**Contextual Factors and their historical basis**

The three contextual factors that were found to influence the teachers’ use of movement in their classroom practice were curriculum requirements, pedagogical requirements and physical resources. All were identified as having inherited a historical bias against movement in learning. Classroom traditions that were fashioned on a system that valued control and compliance (Prochner, 2009) are still evident in the cultural environment of the junior primary school classes today (Resnick, 2010). The relevance for the teachers’ use of movement in their classroom is discussed next.
An inheritance of control

The dual curriculum focus of literacy and numeracy has its base in economic development agendas, reinforced through the measuring of student and school achievement in these terms (Bousfield & Ragusa, 2014). Such standardisation and the associated accountability, Hardy (2013) contends makes it difficult for teachers to focus upon genuinely student-centred teaching and learning practices. The use of movement in the pedagogy for young students is a potent example.

The trends evidenced by the Central SS school wide program for silence and listening (Stillness, attention, silence -SAS) to support didactic, whole class teaching methods and the likewise teacher-driven nature of Reading to Learn, reveal much about the values of the school environment. Such programs influence the individual factors identified in this study, such as beliefs about teaching, knowledge and skills, as they pragmatically and ideologically shape teachers practices.

In the broader context of curriculum reform in Queensland, the absence of movement in the scripted pedagogies created to support the rapid changes brought by the implementation of the Australian Curriculum, has been identified as problematic for the young students in junior primary classrooms (Petriwskyj, O’Gorman and Turunen, 2013). The Age-appropriate Pedagogies for the Early Years of Schooling research project was instigated in reaction to the unsuitability of this formal, content-driven curriculum to cater to the needs of young students (DET, 2016). The project addresses the role of movement in learning as one of 11 key characteristics of age-appropriate pedagogies, recommending the inclusion of active learning experiences that require “physical and embodied engagement across all areas of learning” (DET, 2016, p. 28).

The curriculum squeeze

The quantity of curricular material to be taught in the limited time available was reported to restrict the teachers’ use of movement in their practice. Luke (2010) contends that an overloaded curriculum drives an imbalanced competition for the finite amount of instructional time available. The decline of the Smart Moves initiative (DETE, 2012) illustrates how in such a competitive environment, movement is exposed as low in the academically-driven pecking order.
In 2010, during the planning stages of the *Australian Curriculum*, Luke predicted that the academically competitive, social-efficiency perspective had the capacity to lead to a “bloated or conceptually incoherent syllabi that, simply, cannot be taught” (p. 2). This has been realised in the views reported by the teachers’ participating in this study. Given that the use of movement is not included in the pedagogy in the *Australian Curriculum* implementation tool, C2C, this meant that the time allocated for movement was sometimes perceived as time away from learning. Given the notion of a “jam-packed” curriculum as Tessa reported, such activities run the risk of being construed as optional extras rather than an essential aspect of the classroom program.

A compartmentalised curricular approach takes longer to address the vast number of learning goals than does the integrated approach demonstrated in Sally’s classroom. When Sally integrated movement into her focus on curricular objectives, she was also supporting the affective outcomes, identified in the literature as one of the key benefits of movement-based activities (Pica, 1997; Shoval & Shulruf, 2011).

**What matters in movement? Quantity versus quality**

The contradiction exists for the teachers between an obligation to deliver all the content in the overloaded curriculum, and their belief that incorporating developmentally appropriate pedagogy such as movement is both necessary and valuable for their students (Bauml, 2016). The outcome for some teachers studied was an emphasis on the quantity of movement rather than quality. There are several possible reasons for this. Perhaps the challenge of meeting the targets of the overloaded, non-movement aspects of the curriculum means that getting the students just moving at all may take precedence over spending the extra time needed to attend to the qualitative aspects of movement. Perhaps this is reflective of the dominance of the HPE perspective that has tended to privilege physical activity and its health benefits, that has traditionally focused on quantitative rather than qualitative measures (Hunter et al., 2014), or simply that the teachers lack the knowledge and skills to emphasise the qualitative elements of movement. In any case, the limited time, energy and guidance that the teachers were found to put towards the use of movement is unlikely to foster such skill development in the future.
Old school tools for new school rules

The application of the CHAT framework to the research problem was found to be particularly fitting given the continuing impact of historically developed pedagogical tools on the teachers’ use of movement in their classroom practice. According to the cultural-historical framework of activity theory, the pedagogical tools of whole-class instruction and student compliance were constructed by earlier participating workers (Er, 2014) who were working towards social control objectives (Prochner, 2009) counter to the holistic ideologies of education today. The Melbourne Declaration on educational goals for young Australians (MCEETYA, 2008) states that “Successful learners … play an active role in their own learning” (p. 8) and while this does not necessarily imply physical activity, it does contradict the perpetuation of traditional teacher-centred instructional approaches. As the age-appropriate pedagogies recommendations suggest, for young students this should include physically active but also agentic learning experiences (DET, 2016).

Similar to the pedagogical tools used in the classrooms, the rooms themselves showed the continuing impact of the historical trends that influenced their construction. Small rooms with thin walls and bulky furniture hampers the students’ movement in the classroom environment. Beth’s practice showed how even minor updates can be problematic in the cultural context of the school, as her novel idea to replace the regular classroom furniture with options for seating and standing was approved by management only on a pilot basis, with minimal financial support. Given that this approach did not in itself support agentic learning, it is clear that a profound change in culture at all levels will be needed to support the widespread use of movement in learning in the future.

The Australian Curriculum review (2014) notes the issue with perpetuating the existing bias towards particular ideological frameworks, recommending “the various approaches to teaching and learning, either implicitly or explicitly favoured by the Australian Curriculum, should also take note of developments in cognitive psychology related to how students’ best learn” (p. 5). This paper opened with a discussion of the wealth of evidence from cognitive psychology of the valuable role movement plays in learning (Jensen, 2005; Ratey, 2008). Blakemore and Frith (2005) reiterate the lack of links between brain research and education policy, with the classroom practices observed in this study providing evidence of this view with a
school-wide policy for stillness and control (SAS), but no consistent approach or even message for movement.

**Movement in the classroom: A forgotten basic**

Ironically, the emphasis on basic foundational skills promoted historically by the 3Rs, now in its contemporary form of literacy and numeracy, excludes movement despite this being more foundational in nature. While movement experiences are important precursors to later achievement in the target domains, their neglect is also due to the taken-for-granted nature of physical development (Duschesne & McMaugh, 2016, Moore & Yamamoto, 2012) and reflective of a culture that celebrates bodies largely on the basis of control (Bjorklund & Blasi, 2011; Evans & Davies, 2004).

The *Melbourne declaration on educational goals for young Australians* (MCEETYA, 2008) provides a more updated account the foundational attributes of successful learning and learners. The *Declaration* promotes the importance of fostering students’ creative abilities and their emotional, mental and physical wellbeing, with an early childhood focus on social, physical, emotional and cognitive development (MCEETYA, 2008, p. 9-11). While a focus on creating a strong basis for further learning is a core aim of schooling in the junior primary years, the basics promoted should reflect the students’ needs rather than a historical interpretation formed from habit, and maintained by the pressures of comparison (Depaepe, 1997). For young students, this means providing a pedagogy with plentiful opportunities to move, developing in the child a sense of competence, independence and supporting their physical and emotional wellbeing for the best long-term outcomes (Stanley, Richardson and Prior, 2003).

**Limitations of the study**

The small scale of the study limits the generalizability of the findings, although Stake (1995) contends that this is not the goal of case study research design. Rather he argues that case study is unique because of its subjectivity, and that this interpretation is an essential element of understanding. Stake (1995) contends that the triangulation process supports the validation of the researcher’s assertions.

While Stake (1995) and Warren and Karner (2010) assert the benefits of researcher interpretation, the impact on the data collection observation and interview
processes is acknowledged as being influenced by researcher bias stemming from my own experience. This will therefore have contributed to the findings of the study.

With three participants, one school site and two of lessons observed for each participant, there exists the possibility that the practices occurring at that time were not representative of the range of approaches used by the teachers, however they were encouraged to report on these in the follow-up interview. Further, this study does not capture teachers’ practices in other school settings which likely have different internal policies and attitudes toward external requirements such as C2C.

Implications

The implications that can be drawn from the findings of this study for teachers, teacher education, curriculum planners, school leaders and curriculum policy writers are included below under the theme of policy and practice. This is followed by recommendations from this study to inform the direction of further research.

Policy and practice. The findings of this project identified the absence of guidelines for using movement in the classroom program, in any of the curricular materials referred to by the teachers. Rather, these guidelines should reflect the Age appropriate pedagogies for the early years of school recommendations to include physically active learning tasks that enhance students’ knowledge, skills and engagement in the classroom program. Such guidelines need to promote the benefits of movement to learning for this age-group, with reference to key findings from cognitive psychology and related evidence-based research, so that teachers can be adequately informed to defend their use of such pedagogies in light of competing systemic priorities.

The range of pedagogical choices available to teachers involving movement, including strategies for adapting prescriptive curriculum materials, needs to be supported by engagement in professional learning opportunities. Pedagogical resources that employ movement beyond mimicry but rather include creative, interpretive and problem-solving processes should be promoted. Teachers need both encouragement and facilitation to share their ideas and experiences with their colleagues to mutually enrich their practice and broaden the scope of their pedagogical repertoire.
Pre-service teacher education courses on pedagogy and age-appropriate practices need to foster the development of movement-based pedagogies. Primary level teacher education programs in particular should include a component that promotes an understanding of the foundational nature of the early learning that precedes school attendance, noting the diversity of students in every junior primary class ensures that some students will not have reached the expected milestones of school readiness. Pre-service teachers will also need skills of critical reflection to support an understanding of the historical nature of many of the existing practices in schools, and how their input might contribute to or prevent their perpetuation.

**Directions for future research.** As mentioned in the opening of Chapter Two, the paucity of existing research on the topic of teachers’ use of movement in their classroom provides a multitude of avenues that would comprise worthwhile research. Given this, future research should consider what knowledge will bring the greatest benefits, not just to the scholarship in the area but in regard to providing useful information for application by the key stakeholders.

An expansion of the scope of the current study design, to include diverse populations and further opportunities to gather data in classrooms could comprise the next stage of exploration in this field. The end result should support the development of teachers’ knowledge, experience and skills in using movement in their classroom practice. Further research could aim to develop new resources in collaboration with the *Age-appropriate pedagogies for the early years of learning* project, and could include student voice about their movement preferences. Lastly, the findings of this study could inform a survey designed to gain a broader perspective of junior primary teachers’ use of movement across a range of settings to identify school and classroom environments, policy configurations and teacher resources that support the integration of movement for learning.

**Summary and final words**

The use of movement in junior primary classroom teachers’ practice is limited by the use of historically derived tools and the policy structures. This practice occurs despite a wealth of published research evidencing the benefits of movement to learning and an acceptance of the suitability of such approaches for the age group. The control-focused history of the school organisation is implicated in the origins of
the problem, which is further compounded by the low value assigned to the physical body in achieving economically competitive goals. This historical influence is reflected in the teachers’ practice, as observed in the continued use of tools and approaches that were constructed to control rather than cultivate creativity and student diversity.

The *Age-appropriate pedagogies for the early years of school* program is currently addressing this challenge in their work with Queensland prep level classroom teachers to support more productive classroom practices (DET, 2016). The findings of this research reinforce the case for the benefits of these pedagogies to be extended to Year 1 and 2 students as direct-teaching methods are unsuited to their needs as well.

Promisingly, the findings revealed that the junior primary teachers used some innovative approaches to provide opportunities for movement while still working towards existing school-wide goals and policies. Such efforts need to be encouraged and extended, as externally applied add-on initiatives such as *Smart Moves* (DETE, 2012) fail to acknowledge teachers’ competing priorities and have been shown to be unsustainable. The benefits of movement-rich pedagogies need to be promoted explicitly and with reference to the evidence base, so that teachers can critically evaluate their current practices and then advocate and apply adaptations to standardised material to suit the diverse needs of their students. The urgency for such change comes from the students themselves, who deserve to have their needs for self-expression, independence and learning to be acknowledged for benefits now and in the long term.
References

About Edu-K and Brain gym (n.d.) retrieved from
http://www.braingym.com/about.html


LEARNING TO MOVE, MOVING TO LEARN


doi:http://dx.doi.org/10.1038/sj.ijo.0802376


Appendix A

GRIFFITH UNIVERSITY HUMAN RESEARCH ETHICS REVIEW

Dear Dr Stephen Hay

I write further to the additional information provided in relation to the provisional approval granted to your application for ethical clearance for your project "Learning to move, moving to learn: Exploring junior primary teachers' use of movement in the core curriculum" (GU Ref No: 2016/175).

This is to confirm that this response has addressed the comments and concerns of the HREC.

The ethics reviewers resolved to grant your application a clearance status of "Fully Approved".

Consequently, you are authorised to immediately commence this research on this basis.

Regards

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Office for Research
Bray Centre, Nathan Campus
Griffith University
ph: +61 (0)7 373 58043
fax: +61 (07) 373 57994
email: k.madison@griffith.edu.au
Appendix B Invitation to participate in the study

Learning to move, moving to learn: Exploring junior primary teachers’ use of movement in the core curriculum

GU ethics ref no: 2016/175

Invitation for participants

Dear [Junior Primary Teacher],

For my studies at Griffith University, I am conducting a research project to understand the factors that influence junior primary teachers’ use of movement in their core curriculum program. I am seeking three junior primary teachers from one school site (ideally 1xPrep/1xYr1/1xYr2) who will allow me to observe them teaching a lesson involving movement, and participate in a recorded interview later in the day. This project is exploratory in nature (I don’t know what I will discover) and is intended to provide a knowledge base on which I’ll conduct further study in this field.

If you agree to participate, you will be invited to nominate a time a when I can view a 30 to 60 minute timeslot where, at some point, movement is used “for learning purposes” in a core curriculum area (any KLA, your choice). Ideally, some or all of the students will be involved in movement of some type (gross motor/fine motor, as defined by you) for some part of the lesson. I will attend the nominated lesson, and write handwritten notes while observing you teaching your class.

Following the lesson, at a time convenient to you (possibly after school), a 30 to 40 minute interview will be conducted on the school site. I will ask questions arising from the earlier observations, as well as some I have prepared earlier. The interview is informal however the discussion will be recorded for later analysis. Your responses will be confidential, as any identifying information in the recordings will be replaced with pseudonyms during the transcription process.

If you are willing to participate and/or have any questions, please contact me on 0414 749 693 or h.manning@griffith.edu.au. Your contribution is greatly appreciated.

Kind regards,

Heather Manning (student researcher)
School of Education and Professional Studies
Other research team members include:
Dr Stephen Hay (Principal Supervisor) Ph: (07) 3735 5650
E: s.hay@griffith.edu.au
Dr Loraine McKay Ph: (07) 3735 5682 E: loraine.mckay@griffith.edu.au
Appendix C “Central State School” demographic information

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<td>Total enrolments</td>
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<td>Girls</td>
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<td>Boys</td>
<td>309</td>
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<td>Indigenous students</td>
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<td>Language background other than English</td>
<td>23%</td>
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Source: www.myschool.edu/au/SchoolProfile/Index/

Note: The full web address for this source, which includes the school name, is not disclosed as this would compromise site and participant confidentiality.
Appendix D *Summary of Data Corpus*

### Data Collection Round 1

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<th>Teacher</th>
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<th>Notes</th>
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<tbody>
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<td>Beth</td>
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<td>Observation Notes and Interview Transcript</td>
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<tr>
<td>Tessa</td>
<td>13/9/16</td>
<td>Observation Notes and Interview Transcript</td>
</tr>
<tr>
<td>Sally</td>
<td>15/9/16</td>
<td>Observation Notes and Interview Transcript</td>
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### Data Collection Round 2

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<td>Observation Notes and Interview Transcript</td>
</tr>
<tr>
<td>Tessa</td>
<td>20/10/16</td>
<td>Observation Notes and Interview Transcript</td>
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<tr>
<td>Sally</td>
<td>2/11/16</td>
<td>Observation Notes and Interview Transcript</td>
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### Analysis of Data

- *Matrix of observation findings* (Appendix G)
- *Themes and sub themes – teacher quotes* (Appendix H)
- *Purposes of movement flowcharts* (Appendix I)
- *CHAT models for each teacher* (Appendix J)

### Final Report
Appendix E Observation protocol

<table>
<thead>
<tr>
<th>OBJECT - Curricular outcomes?</th>
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<tbody>
<tr>
<td>Other motivations?</td>
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<td></td>
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<td>TOOLS - Pedagogical? Physical?</td>
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<tr>
<td>RULES - Mandated? Implied?</td>
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<tr>
<td>COMMUNITY OF PRACTICE - Who? How?</td>
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<tr>
<td>DIVISION OF LABOUR - Who, when, why?</td>
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</table>
Appendix F Interview questions (sample)

- Second round interview questions with Teacher 1
  - Tell me about yourself as a teacher ... what do you enjoy about the job?
  - Please complete this sentence: Children in my class learn best when ...
    (multiple answers are possible).
  - Since my last visit, have you thought more about your use of movement in your class? (By the students? By yourself?)
  - What have you noticed?
  - Have you discussed the interview with the other research participants or colleagues? Tell me what you said, heard or thought ...
  - About the flexible seating approach – What are the benefits? Why? What are the challenges? Have there been any changes to your role since the plan was implemented? How do you feel about these changes?
  - What professional development have you participated in that involved the use of movement in your pedagogy/instruction? (Uni? PD since? Informal?)
  - Tell me about what you know about other teacher’s use of movement?
  - In our last interview, you said that movement helps the students “refocus” – can you elaborate on that process ... what makes you think that? Evidence ...
  - What are the benefits that you have seen of the student using the with kung-fu punctuation actions?
  - Could this (the benefits) be applied to any other concept of learning area in the curriculum? Which/why/why not?
  - In our last observation, when the children were meant to be copying a routine from the interactive whiteboard, some of the children were told they “weren’t doing it right” – what do you think the benefit of them “doing it right” is?
  - How do you think coming from prep yourself influences your use of movement in your classroom?
  - Tell me about the role listening plays in student’s learning in your class?
  - In observed tasks?
## Appendix G Matrix of observation findings (sample)

**Teacher 3 Observation Analysis Round 1**

<table>
<thead>
<tr>
<th>What you saw ...</th>
<th>What you think ...</th>
<th>Validated by ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lining up — children need to be still to show they are “ready”</td>
<td>Stillness is associated with being under the teacher’s control or direction</td>
<td>The school-wide “SAS” approach, using the castanet/clicker, “step 1 is silence, step 2 is attention (eyes), and step 3 is still, hands on heads.” So end result, readiness, is the intended outcome here.</td>
</tr>
<tr>
<td>“Stand up straight, don’t move a muscle” to show students are ready to do movement based warm up, counting backwards by rote, following youtube clip.</td>
<td>Stillness again related to “readiness” or teacher control</td>
<td>See above.</td>
</tr>
<tr>
<td>Students introduce their own movements into the activity set by the teacher.</td>
<td>Children (this age?) will push to be creative, even when this isn’t explicitly encouraged.</td>
<td>Re the children’s creative input: “I could do a lot more than what I do. I do think they cry out for more creative activities ... I need to let go sometimes, they just ... need to have their own time to move their bodies in the way that they want to, at that time.”</td>
</tr>
<tr>
<td>One movement per number spoken (3:1 correspondence)</td>
<td>The students are using movement to reach/apply the learning outcome, even though this was not explicitly required or directed.</td>
<td>“We are encouraged to do these warm ups. They don’t tell us to use movement in them, but I do”</td>
</tr>
<tr>
<td>“I love the way you sit down quietly ...”</td>
<td>Teachers “love” stillness, because it matches their image of “control”, which makes them feel calm??</td>
<td>Stillness questions</td>
</tr>
<tr>
<td>Story — Integration of literacy into numeracy (maths lesson)</td>
<td>High value of these two learning areas.</td>
<td>“They love a story, so if there’s some way of introducing (this fairly new (maths) concept with a children’s book, and then get them to do it physically on the floor with concrete materials, that would be a good lead in.”</td>
</tr>
</tbody>
</table>

**Teacher 2 (Yr. 1) 13 September**

<table>
<thead>
<tr>
<th>What you saw ...</th>
<th>What you think ...</th>
<th>Validated by ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of stillness to gain teacher’s attention (hands on heads/castanet)</td>
<td>Teacher needs students to be still to ensure the students are listening – therefore, equates stillness with students listening, with control because it’s students listening to teachers, teacher is all-important.</td>
<td>INT 2: “They have an active listening body position so I know that they’re paying attention ... just because you are silent, doesn’t mean you are listening, you need to be showing me that you’re listening”</td>
</tr>
<tr>
<td>Transition onto mat - students don’t only walk quietly, but incorporate free movement such as running, arm swinging, chatting.</td>
<td>Any opportunity to move is taken, because the natural “urge” exists. It takes more effort to be still than it does to move.</td>
<td>Observation over multiple instances in all 6 observation periods</td>
</tr>
<tr>
<td>High amount of oral instructions when children are seated.</td>
<td>Traditional model of education. – Curriculum driven pedagogy, didactic.</td>
<td>Not modifying but doing as told.</td>
</tr>
<tr>
<td>Robot dancing – need to STOP to give feedback/corrections</td>
<td>Getting it “right” is more important that just doing it in the first place. Not having alternative ways to provide feedback (eg. Modelling the desired movement).</td>
<td>“I demonstrate what I want them to do, but it depends on the activity that they are doing.”</td>
</tr>
<tr>
<td>“Be silent, not one sound” ... when student talks; “you weren’t making the right choice”</td>
<td>The “right choice” implies to be quiet/listen.</td>
<td>“I often pick ones who haven’t got their hands up because I don’t think they’re paying attention ... they’re going to get caught out.” Also, see comments re “being sneaky”</td>
</tr>
<tr>
<td>Frustration of teacher (as perceived by me from the teacher’s tone of voice, facial expression, non-verbals)</td>
<td>Teacher gets frustrated at students because they won’t stay as still and as quiet as the teacher wants/expects.</td>
<td>INT 5 How to validate? Opinion only</td>
</tr>
<tr>
<td>Lots of time spent with teacher waiting for silence, waiting to be “told what to do.”</td>
<td>Teacher perceives herself to be primary source of direction and knowledge.</td>
<td>INT 2 “I move around the class so that way I can keep an eye on everyone and if they know I’m moving, they’re less likely to be sneaky and fidget and go in their desks and be sneaky.”</td>
</tr>
</tbody>
</table>
Appendix H Themes and sub-themes – teacher quotes

Themes and sub-themes – quotes arranged by teacher

Curriculum perceptions

T1 Int. 1: “I don’t believe that the curriculum is very conducive to movement in the classroom. I find especially with CCE, they are expecting children to sit sometimes for 45 minutes in the one spot. You’d do more that jar of movement in the younger years... older grades they are expected to sit at their table and for extended periods of time, there is not a lot of movement allowed.” “...the discouragement that we still do have to get through the curriculum, so there’s no allowance for whether we can finish the term’s work”

T1 “My biggest concern and my biggest struggle with movement in the classroom is the curriculum. It’s very rigid in what we have to get through in a certain year, and some things, I guess some concepts don’t lend themselves to movement” “I guess the discouragement (from using movement) that we do still have to get through the curriculum, so there’s an allowance for whether you can finish the term’s work.”

T2 Int. 1: “At the beginning of the year to increase fine motor skills, I know the other year 1 teachers did a lot of cutting activities to build that, whereas that’s really all you can do because there’s not too much time to get out of the classroom and do skills that like you just fall too far behind.”

T2 Int. 1: “I’m not sure what the curriculum indicates about incorporating movement into tasks. It does have maths in particular, a lot of hands-on activities, which is in the maths curriculum... Sometimes with Science and other subjects it’s not as easy to incorporate, because it’s so jam-packed, sometimes you don’t have time to make it as hands on and interactive as you’d like. It’s quick, fast-paced.”

T2 Int. 2: “Assessment, report cards. I’ve made that activity for the assessment.”

T2 “In math it’s easier to have more movement because there’s more hands-on things and going up to the whiteboard to work out a sum, that would count as movement. In English there’s not as much, whereas in maths it’s more hands on.”

T3 “I don’t want to lose the control and rein everybody back in (to) what needs to be done because I’m finding the curriculum so overloaded that we’re constantly sloughing through it. I feel that okay, if I let them all go crazy...”

T3 Int. 1: “The movement warm ups... that we were doing was a counting back from 20 (a good idea).” “Because we also need, as part of the curriculum, counting back from 20... I’ve got a couple of them that don’t know their numeracy yet. Showing it on the screen, while they’re moving, they will pick something up.”

“We were doing pattern just recently, so we were obviously patterning with any concrete materials on the floor, someone said ‘Oh can I make a pattern with my voice, I can make a pattern with my hands and then they were making patterns with their bodies, one going longways, and lengthways. Things like that, as they arise, we talk about those sorts of things too... I think there is a little room for it, in the curriculum. I mean if we’re talking about maths again, there is a little bit of room, you could make a clapping pattern, etc., etc., I don’t think I go into it terribly deeply, I think it’s up to teachers’ knowledge and experience to how it is where it’s required. Planning: ‘so if its measurement or patterning or whatever that is, on the weekend I’ll look through all the lessons and I’ll go, I get the gist”

School influences

T1 Int. 1: “I have been given the nod for flexible seating, they have allowed me to modify my room as such and make allowances for that... the encouragement is the nod that you’re doing the right thing and that they (the students) get the benefits from it and speak to them about why I’m implementing these things... the discouragement is that we still do have to get through the curriculum.”

“we have just updated ‘reading to learn’... it’s very modelled... it’s very structured... so it doesn’t give a lot of opportunity to be flexible with it.”

T2 Int. 2: “We’ve got the resources for maths and science boxes, or the experiments, that would be one thing that they do to encourage there’s no discouragement.”

T3 Int. 1: “Our school is, does have the Fleming model, so we are required to, heavily encouraged to do warm-ups, at the beginning of each lesson. But how that looks in your classroom can be very different...”

“also we’re in a small classroom in a demountable. There are very little walls between us and the next classrooms so I’m aware of noise... if they are jumping or bouncing then it does, the floor does reverberate and it does... it’s quite loud next door.”

T3 Int. 2: “School-wide program...” “so step 1 is sit down, step 2 is attention to your posture, fingers to the eyes, so we are seeing the visual movement as well. And Step 3 is still, hands on heads. The acronym is SAS.”

Historical (past?) perceptions of “good” school behaviour (Note: references drawn by me here)

T1 “as soon as we hit year 2 is was very regimented. Desks, rows that sort of thing.”

Observation T2: “I will try to stop moving... show me whole body listening.” “I am talking, you are listening” “Someone is sitting nice & straight, being polite” “You need to show me whole body listening because you’re being very fidgety”

T1 “But if they want to lie down, I don’t have a problem with that. Whereas earlier – back in the day, that would have been very frowned upon if a student walked in and everybody’s lying around and slouching around on the floor.”

Movement (stillness)/while learning

T1 Int. 1: “It’s not to my benefit to have them stand still or sit still, because they’re going to be focused so much on keeping their body still than on the actual learning.”

T1 Int. 1: “Since I’ve implemented the flexible seating, the focus and the engagement of the children and the uptake of learning has been huge...”

“if they’re not disturbing the class or if they’re not disturbing someone near them, that’s fine for them to sort of jump.”

T2 Int. 2: “Movement is a big thing, they do struggle with sitting still, they do struggle with regimented sessions where they don’t move a lot.”

“... why do we suddenly expect them to be able to sit and work... they’re still little, they still need to move... I think it’s so sad that we lose them as we move up. The early childhood philosophy, you know, talks about movement and engaging and hands on... I just don’t see the point of not using that best practice all the way through.”

Students “need that movement to work through their brain process... it’s all about discovering what your students need to help them listen...”
Appendix I Purposes of movement flowcharts

Teacher 1 Purposes of movement flowchart

- Movement FOR Learning (Movement used specifically to enhance curricular content in tasks)
  - Own research has led to Kung Fu punctuation, teacher has applied this pedagogy in maths symbols. Lack of further external PD on movement and the curriculum.
  - Success of current amount of movement used indicates greater potential of this pedagogical approach.
  - Combining these two makes sense, reduces the teacher’s conflict by enhancing curricular outcomes during “break times” by alleviating overloaded nature (integrated/embedded approach).

- Movement WHILE Learning (Provisions made for informal movement during curricular tasks)
  - Own research has led to flexible seating.
  - “Shake Break” is necessary because above two approaches do not allow adequate levels of movement for this age group.
  - Conflicts with the teacher’s core objective of achieving curriculum outcomes. (Overloaded and prescriptive nature of curriculum requirements.)

- Movement to PREPARE for Learning (Movement activities used to improve engagement in curricular tasks that will follow)
  - Perception that curriculum is too jam-packed, you don’t have time to make it as interactive as you like. Less movement and curriculum learning are separate. “I’ll watch you stop moving, show me what body listening.”
  - Perceptions that movement isn’t interactive set in student’s minds. More in opportunities in Math than English. Students use fingers and think alouds while they complete tasks.
  - Perception that movement not valued in learning. A distraction in the context of her teaching style.
  - Ideological mismatch between “how children learn best” and practice, evidences low value of movement as contributing to this.

- Children learn best when “hands-on activities, they get to manipulate something or demonstrate their knowledge.”

Teacher 2 Purposes of movement flowchart

- Movement FOR Learning (Movement used specifically to enhance curricular content in tasks)
  - Perception that curriculum is too jam-packed, you don’t have time to make it as interactive as you like. Less movement and curriculum learning are separate. “I’ll watch you stop moving, show me what body listening.”
  - Perceptions that movement isn’t interactive set in student’s minds. More in opportunities in Math than English. Students use fingers and think alouds while they complete tasks.
  - Perception that movement not valued in learning. A distraction in the context of her teaching style.
  - Ideological mismatch between “how children learn best” and practice, evidences low value of movement as contributing to this.

- Movement WHILE Learning (Provision made for informal movement during curricular tasks)
  - Movement seen as a distraction to formal/curricular learning. Believes that if students are fidgeting they won’t listen. acknowledges need to refocus herself.
  - Movement not valued in learning. A distraction in the context of her teaching style.
  - Ideological mismatch between “how children learn best” and practice, evidences low value of movement as contributing to this.

- Movement to PREPARE for Learning (Movement activities used to improve engagement in curricular tasks that will follow)
  - “They just need to get up, walk around, and come back to get their attention. Students find their own “movement breaks” (student, stopping to whiteboard, robot, wait to get a drink)
  - Movement not valued in learning. A distraction in the context of her teaching style.
  - Ideological mismatch between “how children learn best” and practice, evidences low value of movement as contributing to this.

- Children learn best when “they’re actively engaged, not just being told at given time to participate in the learning.”

Teacher 3 Purposes of movement flowchart

- Movement FOR Learning (Movement used specifically to enhance curricular content in tasks)
  - Content and movement are integrated so movement is used in different ways for curricular content and/or skill development.
  - Success of current amount of movement used indicates greater potential of this pedagogical approach.
  - Combining these two makes sense, reduces the teacher’s conflict by enhancing curricular outcomes during “break times” by alleviating overloaded nature (integrated/embedded approach).

- Movement WHILE Learning (Provision made for informal movement during curricular tasks)
  - Movement is accommodated through changes in environment, placement and facing.
  - Content and movement are integrated so “brain breaks” (when students get to move more than in the previous activity) still has curricular content and/or a skill development element.

- Movement to PREPARE for Learning (Movement activities used to improve engagement in curricular tasks that will follow)
  - Conflicts with the teacher’s core objective of achieving curriculum outcomes. (Overloaded and prescriptive nature of curriculum requirements.)

- Children learn best when “they’re actively engaged, not just being told at given time to participate in the learning.”
Appendix J Comparison of teacher CHAT models

Application of Engeström's Activity Theory for Beth

**TOOLS:**
Flexible seating, "Go Noodle" web resource, teacher modelling and use of gestures, "shake breaks", "Kung Fu Punctuation" and own application of this concept (maths symbols)

**SUBJECT:**
Both

**OBJECT:**
Curricular Outcome – reading comprehension, number, both R2L

**RULES:**
School based - R2L
SAS, gradual release model (I do, you do, we do)
Unwritten/social?
Historical – this teacher's own school "yr 2 was very regimented"

**COMMUNITY OF PRACTICE:**
Student responses to flexible seating - yr 2
School - support of flexible seating - piloting, school also introduces structured curricular programs without movement ("I1 "doesn't give a lot of opportunity to be flexible with it")
Colleagues - limited interaction with staff outside cohort
Parents - "coming and going" in mornings
PAST SCHOOLS influences - historical?
Lack of PE available/ lack of encouragement from leadership to seek this out

**DIVISION OF LABOUR:**
Balance towards teacher leads & students follow

Application of Engeström’s Activity Theory for Tessa

**TOOLS:**
"Go Noodle" web resource. Teacher moves among students

**SUBJECT:**
Tessa

**OBJECT:**
Curriculum Outcome: Read to learn, maths assessment

**RULES:**
Curriculum – "jam-packed,
School
Quiet classroom – SAS
school wide practice.
Unwritten/social - Need for students to be seen as "doing the right thing?"

**COMMUNITY OF PRACTICE:**
Students – distrust in
Colleagues?
Concrete materials provided by school (perception that they are needed.)

**DIVISION OF LABOUR:**
Emphasis on value of listening, where students are receivers and teacher is expert = low level of involvement by students. Teacher moves rather than students.
Appendix J Comparison of teacher CHAT models (continued)

Application of Engeström’s Activity Theory for Sally

**TOOLs:**
- Physical—location, varied, positioning—sitting/lying down, Video for fine and gross motor
- Pedagogical—integrates movement with content

**HISTORICAL:** Lack of gross motor skills becoming more obvious over the last couple of years.

**SUBJECT:** Sally

**OBJECT:**
- Curriculum Outcome: e.g., handwriting, sharing (number)

**RULES:**
- Curriculum overloaded quantity: "Fleming Model" has warm-ups but teacher adds the movement
- School policy: SAS rule, gradual release model (I do/you do/we do)

**COMMUNITY OF PRACTICE:**
- Student—the students’ interests and developmental needs are understood and valued
- School—in a demountable, concerns about noise levels for neighboring classrooms
- Colleagues—limited interaction with staff outside cohort, but did know some of what other teachers do
- PAST SCHOOLS: influences—historical?
- PD—None recently Years ago, at another school, 1 day on "Brain Gym or something along those lines"

**DIVISION OF LABOUR:**
- Largely teacher leads/students follow, but teacher acknowledges "I could do a lot more ... I need to let go sometimes, they just ... need to have their own time to move their own bodies in the way that they want to."
Appendix K Continua from analysis (discarded)

Figure 7 Continuum of approaches to using movement within the curriculum

Figure 7 Synthesis of Ideological continuum of movement-based programs and
Continuum of approaches to using movement within the curriculum

“Adultification”
Low value of movement, low quantity; Compartmentalised through timetable and setting.

Child-centred
High value of movement, high quantity; Embedded into program and setting.