



**Learning to Spell:
An Examination of Year 4 Teachers' Beliefs,
Knowledge and Practices for the Teaching of Spelling**

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DECLARATION

I certify that this dissertation contains no material that has been accepted for the award of any other degree or diploma in any institute, college or university. In addition, to the best of my knowledge and belief, it contains no material previously published or written by another person, except where due reference is made in the text of the dissertation.

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Caitlin E. Kennedy

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ABSTRACT

This research explored the pedagogical practices of Year 4 teachers for the teaching of spelling. Currently, a gap exists between the recommended teaching pedagogies within the research literature, such as the development of four types of spelling knowledge (phonological, visual, morphemic and etymological), and the practices implemented by teachers within the classroom, particularly in the middle primary years. This study therefore aimed to understand this gap through two research questions, focusing on the types of pedagogical practices Year 4 teachers use to teach spelling, and if and how, Year 4 teachers incorporate the four types of spelling knowledge into their teaching practices.

Three Year 3/4 teachers from a Catholic school in Tasmania were selected as participants. The research involved a mixed-method approach for data collection, involving the observation of three spelling lessons and a focus-group interview. The qualitative data were analysed using thematic analysis, with three key themes revealed. The results found that the participants predominantly used traditional teaching approaches that implied emphasis on rote learning and memorisation. In addition, evidence of a significant absence of the four types of spelling knowledge was found within the participants' pedagogical practices, with etymological knowledge in particular virtually non-existent within the teaching of spelling in Year 4.

The study concludes that more attention must be given to the teaching of spelling in the middle primary years. Both pre-service and in-service education needs to provide teachers with instruction on up-to-date pedagogical practices, particularly regarding the four types of spelling knowledge, in order to give students the greatest opportunities to become successful spellers.

Keywords: literacy, spelling, phonological knowledge, visual knowledge, morphemic knowledge, etymological knowledge, pedagogy, curriculum

GLOSSARY OF TERMS AND ACRONYMS

Pedagogy	“The art, science or strategies of teaching based on professional knowledge and reflective practice” (Churchill et al., 2011, p.16).
Four Types of Spelling Knowledge	Phonological, visual, morphemic and etymological knowledge.
Phonological Knowledge	Refers to “how words sound”. This involves the awareness of words in oral language and the unit of sound that they are formed with, including syllables, onsets and rimes, and phonemes. For example, recognising the separate sounds of /c/, /a/ and /t/ in the word ‘cat’.
Visual Knowledge	Refers to “how words look”. This involves an understanding of the written language, including concepts of print, the alphabet, spelling patterns, and the relationship between letters and sounds.
Morphemic Knowledge	Refers to “how words change form”. This concerns the structure of words, and how morphemes can be composed together to create a word. It requires understanding of morphemes, root words, prefixes and suffixes, compound words, and spelling rules.
Etymological Knowledge	Refers to “where words come from”. It involves an understanding of the origin of words, including those that are derived from other languages.
Phonics	The term used to refer to the ability to identify the relationships between letters and sounds when reading and spelling.
Phoneme	The smallest unit of sound in a word. For example, the word ‘is’ has two phonemes: /i/ and /s/; the word ‘ship’ has three phonemes: /sh/, /i/, /p/.
Grapheme	The letter/s of the alphabet that represent units of sound.

Morpheme

The parts of words that hold meaning. Words may be constructed with one morpheme, for example ‘run’ or ‘boy’, or they may contain two or more units of meaning, such as ‘redesign’ (re + design) and ‘recreation’ (re + create + ion).

NAPLAN

National Assessment Program – Literacy and Numeracy

SWST

Single Word Spelling Test

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Chapter 1: Introduction

Research Overview

This research investigated the pedagogical practices of Year 4 teachers for teaching spelling. Spelling is an essential skill for all individuals, as it plays a significant role in one's ability to read, write and communicate effectively (Graham et al., 2008). Despite the important role spelling plays for individuals, there is a relatively large gap between current research literature regarding spelling pedagogy and teachers' classroom practices (Westwood, 2008). This research investigation was conducted in an attempt to understand this gap and identify the ways in which spelling is being taught in schools and classrooms today. Specifically, this research aimed to investigate the spelling practices used by Year 4 teachers and how this aligns with the spelling pedagogy presented in the research literature, with a particular focus on the four types of spelling knowledge: phonological, visual, morphemic and etymological knowledge.

The Problem

An individual's ability to spell remains of critical importance in modern society, even within the current technological dominated digital age. One could even argue that the public nature of social media places users' literacy skills in the spotlight more than ever before. Vedora and Stromer (2007) stated that "spelling is a vital part of the educational process because learning to read, write, spell and express one's thoughts accurately in writing is essential for a literate society" (p. 489). It is therefore important for teachers to teach spelling effectively during the primary years of schooling in order to prepare students for successful writing, reading and active participation in contemporary society throughout their lives (Graham et al., 2008). However, the relevant research literature suggests that students are not always receiving instruction that provides them with the necessary skills and strategies to consistently learn or spell words correctly within a range of contexts (Westwood, 2008).

National testing conducted within Tasmania has revealed that many students in schools today are lacking the necessary skills to spell at the required grade level. Recent results from the *National Assessment Program – Literacy and Numeracy* (NAPLAN) indicted that Tasmania is consistently among the lowest achieving Australian states in the area of spelling (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2013). Between 2009 and 2013, the percentage of Tasmanian Year 5 students who achieved at or above the national minimum standard was below the Australian average for each year (ACARA, 2009, 2010, 2011b, 2012, 2013). This suggests that many students may not have been equipped with the sufficient spelling skills and understanding in previous years of schooling, including Year 4. These results also suggest that a focus needs to be applied to determining why many students in Tasmanian schools are struggling in this area of literacy development and what can be done to improve this.

One factor that may contribute to students' underperformance in spelling is teacher pedagogy and content knowledge. According to Westwood (2008), many teachers have significant gaps in their pedagogical content knowledge for spelling, and this has been attributed to an absence of focus on spelling pedagogy and practices within teacher education programs and in-service training. Westwood (2008) also suggests that teachers' own lack of knowledge of

spelling principles and strategies can cause uncertainty about how to effectively teach spelling, often resulting in students' skills being developed incidentally rather than based on informed and explicit instruction.

Current research literature outlines some instructional approaches that are recommended as being effective for developing students' spelling, including the integration of multiple spelling strategies and word sort activities (Bear, Templeton, Invernizzi & Johnston, 2008; Fellowes & Oakley, 2010; Kelman & Apel, 2004). These approaches encourage the incorporation of four types of spelling knowledge that can form the base for children becoming competent spellers. These types of knowledge include phonological, visual, morphemic and etymological knowledge (Fellowes & Oakley, 2010). However, as stated, this information is often largely unknown by many teachers. In order to improve students' spelling capabilities and spelling performance, the gap between research knowledge and classroom teaching practices needs to be addressed.

The Research

Research purpose.

This research was directed by three specific aims. First, this research aimed to explore the types of pedagogical practices Year 4 teachers were using in their classroom to teach spelling in Australian English. Second, this research aimed to determine Year 4 teachers' personal beliefs and knowledge regarding spelling instruction. Finally, this research sought to identify whether the spelling practices utilised by Year 4 teachers were underpinned by modern pedagogical techniques as stated in the Australian Curriculum documents (see: Invernizzi & Hayes, 2004; Bear et al., 2008; Kelman & Apel, 2004).

Research questions.

To achieve the aims of this investigation, the research was guided by the following questions:

- 1. What pedagogical practices are Year 4 teachers currently using to teach spelling in their classroom?*
- 2. Do Year 4 teachers incorporate the four different types of spelling knowledge (phonological, visual, morphemic and etymological knowledge) as part of their teaching practice as outlined by the Australian Curriculum?*

Research approach.

The methodological approach for this research project involved a qualitative case study involving three Year 4 teachers. To investigate the two research questions, a mixed-method design was used for data collection. Observation of three spelling lessons was conducted to view the pedagogical practices implemented by each of the three participants. To identify additional pedagogical practices used by the participants, and determine their beliefs and knowledge in relation to the education of spelling in Year 4, a focus-group interview was conducted. Data collected through this mixed-method approach was analysed using thematic analysis (Braun & Clark, 2006). The research approach and design is discussed further in Chapter 3: Methodology.

Research context.

This research was conducted in a coeducational Catholic primary school catering for students from Kindergarten to Year 6. The school is located in Southern Tasmania, within a low-socioeconomic area. Currently, the school has almost 400 student enrolments, including four Year 3/4 classes.

Significance of the Research

While a body of literature currently exists that describes contemporary spelling teaching practices, such research has focused largely on the early years of primary school education (for example: Loudon et al., 2005; Graham et al., 2008) and therefore a gap exists within the research field in regards to pedagogical practices in the middle to upper primary years. This research project aimed to address this gap by focusing on teachers' pedagogical practices for the teaching of spelling within Year 4. Year 4 was selected as a focus due to the relevance of its curriculum content to the research questions, as all four types of spelling are stated within the Australian Curriculum English, Year 4 (ACARA, 2014b). The types of spelling knowledge are outlined within the Australian Curriculum English Year 4 through the content descriptions "using phonological knowledge", "using visual knowledge", "knowledge of morphemic word families" and "building etymological knowledge about word origins" (ACARA, 2014b).

There has been minimal research investigating how current Year 4 teachers are teaching spelling and how they implement the four types of spelling knowledge outlined in the Australian Curriculum in their classrooms. Fellowes and Oakley (2010) also recommended these practices and suggested that teachers should aim to develop students' understanding of the four types of spelling knowledge. However, numerous researchers have found that teachers tend to rely on traditional instructional approaches that involve rote learning and memorisation (Joshi, Treiman, Carreker & Moats, 2009; Westwood, 2008). It is therefore important to identify what methods teachers are currently using to teach spelling, in order to determine whether they are successfully contributing to the development of students' spelling skills. The current research project enables an insight to be gained into the types of pedagogical practices used by Tasmanian primary school teachers to teach spelling. By identifying what pedagogical practices teachers are currently employing in spelling classes, and investigating how teachers are incorporating the four types of spelling knowledge into students' learning, a deeper understanding of the approaches currently being used in schools can be gained, and compared with those encouraged within the research literature.

The findings of this study are theoretically significant as they contribute to the literature regarding pedagogy for teaching spelling in the middle primary years. In particular, this study highlights the importance of the four types of spelling knowledge for developing a repertoire of spelling strategies. The study is also of practical significance, in that it provides opportunities for educators to reflect on their own pedagogical practices and identify strategies that can contribute to the successful teaching of spelling in the middle primary school years.

Identifying and sharing successful spelling programs among Tasmanian primary school teachers can work towards potentially increasing the level of spelling achievement by students in the middle to upper primary years. By helping teachers to become aware of a variety of

pedagogical strategies that incorporate the different types of spelling knowledge, they will be able to build on their professional knowledge and practice, and therefore enhance learning experiences and academic attainment for their students.

Thesis Structure

This thesis begins with a description of the research problem that formed the basis of this project of exploration. This problem includes Tasmania's consistent underachievement in national testing compared to other Australian states and the gap between current research knowledge and classroom practice. This current chapter, Introduction, presented the aims and the research questions, as well as a description of the research approach. Chapter 2: Literature Review, positions this study within the context of the relevant research. It presents a review of the scholarly literature in regards to the pedagogical practices for the teaching of spelling and explored the four types of spelling knowledge. Chapter 3: Methodology, presents a description of the methodological approach used for this research and Chapter 4: Results, presents the findings from the research. Chapter 5: Discussion, explains the research findings and positions these findings within the wider body of literature. The final chapter, Conclusion, summarises the research and provides recommendations for future research, policy and practice.

Chapter 2: Literature Review

Introduction

This chapter presents a review of the literature relevant to the focus of this research: pedagogical practices for the teaching of spelling. First, the importance of spelling is summarised with reference to its place within the Australian Curriculum. A discussion of both past and current pedagogical practices for the teaching of spelling is then presented. Finally, the influence of teachers' personal content knowledge on their choice of pedagogy and students' subsequent spelling achievement is discussed. Through this review, the gaps existing within the research field are identified, highlighting the importance that this research holds for students, teachers and the education community.

The Importance of Literacy

Literacy is one of the most significant aspects in the daily lives of humans, exhibited through verbal language exchanges, reading, and writing. Developing adequate skills in literacy is regarded as an essential key to successful participation in society, including school and the workforce (Winch, Johnston, March, Ljungdahl & Holliday, 2010). The teaching of literacy is therefore a vital aspect of an individual's education, particularly throughout the primary school years (Graham et al., 2008). The development of a foundation of literacy skills can ensure successful transition between each stage of schooling, and prepare students for literacy demands within society (Winch et al., 2010).

Literacy learning commences at a young age, with children typically beginning to demonstrate comprehension of word meaning at around eighteen months old (Peterson, 2010). As children enter school, their literacy skills become increasingly important as they are required to communicate with others not only verbally, but also through written work. One aspect of students' literacy development that is vital to success in school, the workforce, and daily life is the acquisition of spelling skills (Hutcheon, Campbell & Stewart, 2012). The value of spelling is supported by Chandler (2000) and the Mapleton Teacher-Research Group, whose research of 124 parents' beliefs of how important spelling is found that 100% agree to its importance, with 77% stating that it is extremely important.

Difficulties with spelling have the potential to negatively affect students both at school and during their daily lives. Poor spelling can cause frustration, anxiety and embarrassment for students, resulting in decreased self-efficacy and engagement (Joshi et al., 2009; Graham et al., 2008). Students who struggle with spelling tend to write less words of lower quality within written compositions, due to a limited bank of words they are able to spell (Joshi et al., 2009). Poor spelling also hinders writers' processing memory, as the time taken to determine the spelling of words reduces attention to the generation of ideas and sentence formation (Graham et al., 2008; Joshi et al., 2009). Due to the value placed on literacy skills within society, poor spelling can be considered a reflection on intelligence and expertise, and consequently impact on employment opportunities and evaluations (Raymond, 2014; Joshi et al., 2009). Proficiency in spelling thus has the ability to increase the length and quality of students' writing compositions,

and enhance their fluency in reading through improved phonological awareness (Hutcheon et al., 2012).

The effects of spelling and vocabulary difficulties are considered to be a contributing factor to a phenomenon described by Kieffer and Lesaux (2007) as the “fourth-grade slump”, which refers to a trend identified by Jeanne Chall in 1983, whereby many students successfully comprehend simple texts in the early years of school, but struggle to comprehend texts in the upper primary years. Kieffer and Lesaux (2007) explain the link between vocabulary and reading, and the effect that vocabulary demands have on this trend. They suggest that an understanding of word structure, such as morphemic and etymological knowledge, can increase students’ depth of vocabulary, therefore improving not only their spelling, but also their reading comprehension.

The incidence of students experiencing these struggles with spelling may be exacerbated by a teacher’s choice of instructional approach (Ehri, 1989, as cited in Mullock, 2012). Mullock (2012) describes approaches that focus on rote visual memorisation and incidental learning as being insufficient for helping students to understand spelling patterns. Instead, she encourages instruction that concentrates on the patterns in the sound, structure and meaning of words, aligning with the four types of spelling knowledge stated previously.

It is therefore essential that teachers provide instruction that supports students’ development of literacy skills and knowledge, such as spelling (Graham et al., 2008). Given the importance of spelling, it is vital that teachers effectively educate students to help them develop the necessary skills to successfully spell words.

Spelling in the Australian Curriculum

The necessity of teaching spelling is emphasised by ACARA (2014b) through the Language strand within the Australian English Curriculum, which outlines the aim for students to develop knowledge of the patterns and purposes of the use of the English language, including the spelling of words, in order to communicate effectively (ACARA, 2014b). This knowledge is further developed by the consideration of the use of spelling knowledge as a general capability throughout the Australian Curriculum documents.

The General Capabilities Overview for literacy describes objectives for students throughout the primary school years. In Foundation, students learn to spell words by developing knowledge of sounds and letters (ACARA, 2014a). By the end of Year 4 it is expected that students will be able to spell more complex words, and use strategies for attempting unfamiliar words (ACARA, 2014a). By the end of Year 6, the final year of primary school, students should be able to “use word origins, base words, prefixes and suffixes when spelling new words”, therefore indicating the requirement of teaching pedagogy in the upper primary years to involve consideration of both the morphemic and etymological layers of word knowledge (ACARA, 2014a, p.29). While these types of spelling knowledge currently hold a significant focus within the Australian Curriculum, in the past, they have not been deemed as essential within spelling pedagogy.

The History of Spelling Pedagogy

Spelling pedagogy has undergone numerous transformations throughout the past fifty years, as diverse theoretical approaches have developed. Heald-Taylor (1998) outlines three paradigms from which teachers base their approaches to spelling instruction. These include the Traditional, Transitional, and Student-Oriented Paradigms. The Traditional Paradigm is based on formal instructional practices, where spelling is taught as a stand-alone subject through strategies such as direct instruction and memorisation of spelling lists in preparation for weekly tests (Heald-Taylor, 1998). These practices were prevalent prior to the mid-1970s, and emphasised passive learning through rote learning and memorisation (Westwood, 2014). The effectiveness of this approach has been questioned by literacy experts, who argue that by devoting time for studying spelling in isolation, context is neglected (Westwood, 2014; Campbell & Green, 2011). Criticisms of the Traditional approach include the suggestion by Joshi et al. (2009) that the teaching of spelling should involve a thinking process rather than rote memorisation. This belief is shared by Loeffler (2005), who described difficulties with students being unable to generalise their weekly spelling words into their writing. Loeffler (2005) found that the students who had strength in memorisation consistently achieved scores of 100% on their weekly tests, whereas the students who had weaker memorising abilities became frustrated as they attained lower grades. The finding that students do not translate their successful performance in weekly spelling tests into general writing is supported in the research literature (Fresch, 2007; Beckham-Hungler, Williams, Smith & Dudley-Marling, 2003).

The criticisms of the Traditional approach resulted in a transformation of teaching practices for the remainder of the 20th century. Newly proposed practices were introduced and referred to as the 'whole-language' approach (Westwood, 2008). This approach saw the amount of time spent on explicit teaching of spelling reduced, with the focus instead on developing spelling in the context of writing, through the teacher providing corrective feedback (Westwood, 2008). This often involved creating thematic word lists using vocabulary from a particular topic or unit (Reed, 2012). While this practice has been shown to provide a meaningful context for students, it has been stated that word lists organised thematically do not reinforce the patterns within the phonemic and morphemic structures of words, therefore implying the implicit development of spelling knowledge through memorisation (Reed, 2012). Due to this argument of whole-language learning not being effective as a complete approach to developing spelling skills, it has now been discredited (Westwood, 2008).

More recently, advocated approaches to spelling instruction have reintroduced an emphasis on explicit teaching of spelling, and encourage a combination of both explicit instruction and learning to spell in context (Westwood, 2008). Features of this more modern approach to spelling pedagogy align with Heald-Taylor's (1998) Transitional Paradigm, which involves the integration of multiple strategies for spelling, and emphasises the link between reading and spelling. Instruction in the Transitional Paradigm may involve similarities to the Traditional approach, including weekly testing, but also incorporates word studies, such as sorting words according to particular principles and playing word games (Campbell & Green, 2011). Criticisms of this paradigm, however, include the concern that the spelling activities mentioned above are implemented separately from contextual reading, therefore not embracing the link to reading that is encouraged (Heald-Taylor, 1998).

The final paradigm to emerge over time is the Student-Oriented Paradigm. This paradigm builds on the principles of the Transitional approach, but instead views spelling as a developmental process that is closely related to both reading and writing (Heald-Taylor, 1998; Campbell & Green, 2011). In addition to the activities described within the Transitional Paradigm, Student-Oriented practices include conducting conferences with students to identify strategies they are using effectively, and introducing strategies that will assist them to improve in spelling words that they currently spell with errors. Metacognitive conferences can also be implemented, which involves asking students to consider their spelling practices through reflective questions such as, “What do you do when you come to a word you don’t know?” (Heald-Taylor, 1998, p. 410). Campbell and Green (2011) caution that teachers using this approach must ensure that they facilitate activities to help students move along the developmental continuum, otherwise they may remain in the middle phase of development.

Current Approaches for Spelling Pedagogy

While there is potential for teachers to incorporate features of all three paradigms as part of their pedagogical practice, currently, there is a lack of research to indicate which approach is predominantly present within upper primary spelling classrooms. The majority of research studies investigating teachers’ spelling practices focus on education in the early years of school (see: Cunningham, Perry, Stanovich & Stanovich, 2004; Graham et al., 2008; Loudén et al., 2005). One example is a mixed-method study conducted by Loudén et al. (2005) titled *In Teacher’s Hands*, which aimed to identify effective teaching practices that lead to improved literacy outcomes in the early years. The authors defined effectiveness as “success in producing student achievement gains”, and determined success on the basis of students’ growth in literacy learning through literacy assessment tasks conducted at the beginning and end of the school year (Loudén et al., 2005, p. 2). The study involved observing literacy lessons from teachers between Kindergarten and Year 3, and found that the same type of activities were generally implemented by all participating teachers, such as shared book reading, modelled writing and phonics teaching (Loudén et al., 2005). Those teachers who were considered “more effective”, in addition to possessing more advanced skills in classroom management, were able to support their students through scaffolding and differentiation, demonstrate clearer explanations of content, and often taught literacy skills within a wider context (Loudén et al., 2005). In reviewing the literature, no extensive research such as this has been found regarding spelling pedagogy within the middle to upper primary school years. There is, however, literature regarding general approaches towards spelling instruction that may span across all primary school years.

Current approaches to spelling pedagogy tend to align with the Transitional and Student-Oriented Paradigms. This is exhibited in spelling education textbooks, including Fellowes and Oakley’s (2010) *Language, Literacy and Early Childhood Education*, and in research conducted by authors such as Kelman and Apel (2004) and Bear, Templeton, Invernizzi and Johnston (2008) who all share a common belief in the integration of multiple spelling strategies. Fellowes and Oakley (2010) express the learning of spelling as a thinking process that involves making connections between the different layers of word knowledge. The focus in early childhood begins with the teaching of phonological and visual knowledge, and making connections between the letter-sound relationships, before progressing to learning about morphemic and etymological knowledge (Fellowes & Oakley, 2010). This sequence is outlined in the Australian English Curriculum, as learning progresses from developing phonological awareness through the

sub-strand “Sound and letter knowledge” from Foundation to Year 2, to the understanding of the conventions, patterns and generalisations of spelling in the sub-strand “Expressing and developing ideas” in subsequent years (ACARA, 2014b). As a consequence of the explicit references to these layers of word knowledge within the Australian curriculum, it is important that teachers give their students opportunities to develop spelling skills that involve each element.

The concept of spelling instruction involving different levels of knowledge is shared by Kelman and Apel (2004). These authors discuss the use of multiple linguistic factors as a foundation for developing skills in spelling. These linguistic factors include orthography: the knowledge that phonemes are represented by graphemes, which can involve letter combinations and patterns; phonological awareness: the ability to blend and segment sounds in words; morphological knowledge: the understanding that morphemes can carry meanings through affixes and roots; and mental graphemic representations: images of words in memory (Kelman & Apel, 2004).

The benefits of developing knowledge of these linguistic factors within spelling education was supported through a case study conducted by Kelman and Apel (2004), which involved implementing an intervention for an eleven-year-old girl who had been experiencing difficulties with spelling skills. The intervention involved focusing on a combination of orthographic rules and patterns, and phonemic awareness in a total of eleven sessions over eight weeks. The child participated in discussions regarding general rules for vowel sounds, completed word-sort and phoneme segmentation activities, and was provided with metacognitive modelling to provide examples of how to sort words based on specific patterns (Kelman & Apel, 2004). Results of this study revealed that the approach involving multiple linguistic factors resulted in a significant improvement in the participant’s spelling performance. In a post-intervention writing sample, the young girl made 36 spelling errors, compared to 193 in the pre-intervention test, and improved her percentage of errors in spelling within dictation tests by 22%. This conclusion demonstrated the effectiveness of an approach that incorporates multiple elements of word knowledge for the development of students’ spelling skills, knowledge which is supported by the Australian Curriculum.

The word sort activities conducted in Kelman and Apel’s study are also supported and recommended by Bear, Templeton, Invernizzi and Johnston (2008) in their text *Words Their Way*. *Words Their Way* presents a teaching approach that places emphasis on the use of word sorts that involve categorising pictures, sounds or words based on their similarities and differences, rather than rote learning and memorisation (Alderman & Green, 2011). The approach encourages the use of word sorts that focus on sorting by sounds (e.g. rhymes and syllables), patterns (e.g. word families and rimes) and meanings (e.g. by roots and affixes) to teach spelling. Alderman and Green (2011) suggest five benefits of the use of word sorts in spelling pedagogy: they are engaging due to the hands-on nature of the activity; students are able to concentrate on the analysis of patterns by using familiar words, sounds and pictures; similarities and differences in words are emphasised; more words are able to be studied in a shorter timespan than memorisation activities; and the ability to easily differentiate word sorts depending on students’ individual needs.

Teachers' Knowledge of Spelling

In order to effectively implement methods of instruction that will develop students' spelling skills, teachers must possess their own personal literacy-related content knowledge (Carreker, Joshi & Boulware-Gooden, 2010). This is important, as studies have found that increased literacy-related content knowledge aids teachers' abilities to cater to the needs of individual students based on their current level of spelling and reading development (Carreker et al., 2010). Knowledge of the phonemes in words and the graphemes that represent them helps teachers to analyse students' spelling in order to determine their specific needs (Carreker et al., 2010). For example, spelling "flame" as "flam" indicates that the student was at least able to identify all of the sounds within the word. Similarly, teachers must also understand word structures such as prefixes and suffixes, to be able to be aware that, for example, an understanding of the suffix "-ed" is demonstrated through by spelling "matched" as "mached", but not "macht" (Carreker et al., 2010).

Many teachers, however, do not possess sufficient knowledge of spoken and written language structures (Cunningham et al., 2004; Fresch, 2007; Carreker et al., 2010; Fielding-Barnsley, 2010; Mullock, 2012). This was indicated in a study by Cunningham et al. (2004), which tested the knowledge of phonological awareness of 722 Kindergarten to Year 3 teachers. The teachers' knowledge of phonological awareness was determined by asking the participants to identify the number of phonemes in eleven different words, such as "laughed" and "Christmas". The results of this task found that nearly 20% of the participants did not correctly identify the number of phonemes in any of the words, with less than 1% successful with all eleven words (Cunningham et al., 2004). Only 63% were able to correctly segment the sounds in the simple consonant-vowel-consonant word "sun", and significantly less were successful at identifying more complex letter-sound patterns, such as "grass" (29%) and "scratch" (20%).

These findings are consistent with the results of a similar American study by Carreker, Joshi and Boulware-Gooden (2010) who found that only 5% of 38 in-service teachers were able to correctly identify the number of phonemes in a list of ten words, while none of the 36 pre-service teachers were successful with all ten words. The implication of both of these findings is the concern that teachers may not have the sufficient skills to correctly advise their students of the sound-letter relationships within words. In order to become successful spellers, students need to be able to identify the sounds in words, and match these to their letter patterns; therefore, teachers must possess these skills in order to help children become aware of these relationships (Carreker et al., 2010). The level of knowledge teachers possess regarding word structure may potentially have an impact on the pedagogical approaches that are implemented in their classroom, and consequently may contribute to students' underachievement in literacy as evidenced through recent NAPLAN results (Mullock, 2012).

Chapter Summary

This chapter has presented a review of the research literature. The chapter began by stating the importance of spelling for providing the foundation for a lifetime of literacy success, supported by a presentation of the significance of spelling within the Australian English Curriculum and General Capabilities. The chapter then recounted the transformation of spelling pedagogy throughout history. Current approaches recommended within the research literature

were outlined with a focus on how the incorporation of the four types of spelling knowledge benefits learning. The chapter concluded with a discussion on the influence of teachers' own content knowledge for spelling on the types of teaching practices they used.

The following chapter presents the methodological approaches implemented in the research investigation. Methods of participant and data collection are outlined, in addition to the adopted approach for data analysis. Ethical considerations during the research process are also discussed.

Chapter 3: Methodology

Introduction

This chapter presents the methodological approach selected for the research investigation. The chapter has been designed to provide a description of each step of the research process. It begins by describing the methodological approach, paradigm and ethical considerations underpinning the research. The process of school and participant recruitment and selection is then presented, followed by a description of the approach for data collection and analysis.

Methodological Approach

The methodological approach for this research project involved a qualitative case study involving three Year 4 teachers. This approach was selected because it allows the comprehensive and in-depth research and analysis of a specific situation (O’Leary, 2010). Three case studies conducted in separate schools were originally desired, however, due to difficulties with participant recruitment, a single case study was undertaken within one school. A mixed-method approach was used for data collection, involving observation and a focus-group interview. This approach allowed deeper insights to be gained into the practices and knowledge of the participants. Through the analysis of the data collected during this case study, themes and understandings were able to be generated, with the potential to contribute to educational theory and practice (O’Leary, 2010).

Paradigm

This research project rests within the post-positivist paradigm, which questions the assumptions that there is a single truth in the world that can be determined using scientific method (O’Leary, 2010). This project aligns with the principles of the post-positivist paradigm as it entails an exploratory approach within the specific context of Year 4 spelling lessons, resulting in the collection of qualitative data that may be used to draw theory from.

Developmental Phase of the Research

Ethical considerations.

In order to commence the research, a minimal risk ethics application was submitted and approved by the Human Research Ethics Committee within the University of Tasmania (see Appendix A). Approval was also attained from the Tasmanian Catholic Education Office to conduct research within Catholic schools in Tasmania (see Appendix B).

An information letter and consent form was sent via email to the principals of potential participating schools in order to introduce the research project and seek consent for their participation (see Appendix C). Following receipt of this consent, information letters were sent to eligible teacher participants (see Appendix D). Prior to commencing data collection, each selected participant was required to read and sign a consent form (see Appendix E). To ensure confidentiality of both the participating school and teachers, each participant was given a pseudonym throughout this research.

Selection of school.

Following approval from the ethics committee and Tasmanian Catholic Education Office, a number of Tasmanian schools were invited by the researcher to participate in the research. An information letter was sent to the principals of selected Catholic primary schools via email, for the purpose of introducing the research project and obtaining permission to conduct the research at their school. The selection of three schools was desired; however, due to invitation declines and time constraints, only one school was selected. The participating school is located in a low socioeconomic area within Southern Tasmania. It caters for Kindergarten to Year 6, and currently has almost 400 enrolments. The school had four Year 3/4 classes.

Research participants.

The participant sample consisted of three Year 4 teachers. Selection of participants involved purposive sampling, targeting the specific grade level of Year 4, as the curriculum document for this year level outlines each of the types of spelling knowledge that inform the second research question, therefore suggesting that participants in this category were the most likely to provide the data required. Three teacher participants were selected, as this allowed prolonged engagement with and deep analysis of the case study, which was able to be completed within the designated timeframe.

To be eligible for participation in this research, the teachers were required to meet the following selection criteria:

1. Currently teaching Year 4.
2. Currently teaching Year 4 English on a regular basis.
3. At least three years of primary school teaching experience.

These criteria were required in order to ensure that spelling lessons were able to be observed during the data collection, and in the hope of attaining a range of teaching experiences within the sample, in the anticipation of viewing diverse teaching practices.

After receiving consent from the principal of the participating school, Year 4 teachers relevant to the selection criteria were emailed an invitation to participate in the research project. The selected participants each taught in a separate Year 3/4 class within the one school, and had been teaching for between seven to twenty years.

Data Collection**Observations.**

A mixture of indirect and direct data collection occurred within this project, involving the methods of observation and interviewing. Observation was conducted through observing three 30 minute spelling lessons, one taught by each teacher participant. This method allowed the researcher to gain a first-hand insight into the pedagogical practices implemented by the teacher and provided data surrounding the practical realities of their application (O'Leary, 2010). The researcher acted as a non-participant, therefore observing in an unobtrusive fashion. A semi-structured observation technique was employed, which ensured that predetermined criteria were

addressed, while also allowing for unexpected observations to be recorded (O’Leary, 2010). Data were recorded using the strategy of note taking within an observation schedule outlining details such as the type of activities implemented and the role of the teacher (see Appendix F).

Interview.

Following observation of each teacher’s spelling lesson, a focus-group interview was conducted with the aim of gaining further insight into the teachers’ spelling practices, and their knowledge and experiences in teaching phonological, visual, morphemic and etymological spelling knowledge. An informal interview occurred in order to allow the researcher to establish a rapport with the participants and to ensure that they felt comfortable in responding to the questions. Interviewing was an appropriate method for collecting this information as it was able to provide rich qualitative data regarding the teachers’ motives and reasoning behind their pedagogy, achieved through a structured, yet flexible conversation (O’Leary, 2010). Conducting the interview with a focus group was advantageous for this study as the participants were able to cooperate and collaborate in their responses (Creswell, 2012).

The interview was semi-structured, with core questions used to discover the types of pedagogical practices the teachers use to teach spelling and their reasons behind them. Opportunities to ask additional questions to clarify any understanding were allocated, based on the responses provided by the teacher participants or on information gained from observation of spelling lessons. An audio recording device was used to record the interview, and responses were transcribed by the researcher. Recording the interview enabled the researcher to concentrate on listening to responses from the participants, rather than dividing focus between the interviewee and note-taking. Questions within the interview schedule included determining the types of strategies the participants use when teaching spelling, their reasons behind selecting these strategies and the perceived barriers students face when learning to spell (see Appendix G).

Analysis of Data

Observations.

Thematic analysis was used to compare the observation and interview data collected from each case study, to determine key themes within the pedagogical practices that are described (Creswell, 2012). Following data collection, the observation data were coded using descriptive codes that summarised the ideas within the notes (Saldaña, 2013). This coding allowed the data to be compared with the interview data to enable joint analysis.

Interview.

To begin the thematic analysis, the focus-group interview data was read through several times to gain familiarity with the participants’ responses. The data were then coded using descriptive coding, which involved making short summaries regarding the topic within the passages of the qualitative data (Saldaña, 2013). In the second cycle of coding, the technique of pattern coding was conducted in order to identify themes within the data (Saldaña, 2013). This involved identifying patterns within the coded data, and sorting these into categories. Through this process of thematic analysis, themes were revealed in relation to the similarities of the

participants' pedagogical practices for teaching spelling, including if and how they incorporated the four types of spelling knowledge.

Chapter Summary

This chapter presented the methodological approach for the research investigation. The process for selecting the school and teacher participants was outlined, as well as the mixed-method approach for data collection, involving observation and interviewing. Thematic analysis was described as the method of data analysis, and ethical considerations for the research were provided. The following chapter, Results, presents a discussion of the findings of this research investigation.

Chapter 4: Results

Introduction

This chapter presents the results from the analysis of the data, collected through observation of the three teachers' spelling lessons and a focus group interview. To enable easy navigation of the findings, the results have been structured around the two research questions, which focus on the participants' general pedagogical practices for spelling, and practices specific to the four types of spelling knowledge. Themes that have been identified as a result of thematic data analysis have been discussed in reference to the research questions. The two research questions include:

1. What pedagogical practices are Year 4 teachers currently using to teach spelling in their classroom?
2. Do Year 4 teachers incorporate the four different types of spelling knowledge (phonological, visual, morphemic and etymological knowledge) as part of their teaching practice as outlined by the Australian Curriculum?

Participants' Pedagogical Practices

Research Question 1: What pedagogical practices are Year 4 teachers currently using to teach spelling in their classroom?

In order to identify the types of pedagogical practices that were used by the teacher participants, observations were conducted in three Year 4 classrooms whereby a thirty minute spelling lesson facilitated by each teacher participant was observed by the researcher. Observations were conducted in order to gain an insight into the programs and practices Year 4 teachers were using to teach spelling. The passages below present an insight into the classroom environment and teaching practices that were observed for the three teacher participants, Fred, Adam and Lisa.

Observation 1: Fred.

Fred has been teaching for twenty years, with approximately eight years of experience teaching Year 4. There were roughly 25 Year 3/4 students in Fred's class, who were seated at their desks, which were arranged in groups. The class was divided into three spelling groups named Hurricanes, Typhoons and Cyclones. Fred displayed students' bookwork on the projector using a document camera, as he conducted a whole class discussion reviewing sentences the students had written earlier in the week using their list words. Fred praised students who had used sentences from their word list in the correct context. He indicated sentences that did not make sense, and facilitated a discussion to determine how these sentences could be improved. Questions such as "what does this word mean?" and "how could you change this sentence/word so that it makes sense?" were asked. The focus in this part of Fred's lesson was on whether students had used their words in the correct context rather than whether they had spelt them correctly.

Following this activity, Fred instructed the class to fold a piece of paper into quarters in preparation for a test. He displayed each group's list words on the projector. Fred conducted a

meanings test by choosing a word from the Cyclone's list, and posing a question or statement that referred to the meaning of this word. For example, he asked the group "what happens to ice in the sun?" in reference to the word 'melt'. The students must identify the correct word and write it down. Fred repeated the process for each of the remaining groups. Fred then asked the class to hold up their answer and he visually checked for the correct answer, as well as accurate spelling.

Observation 2: Adam.

Adam has taught for ten years, with five years of experience teaching Years 3/4. Adam's classroom was set up with only a small number of desks and a few large, comfortable seats. The classroom was adjacent to another Year 3/4 class, separated by a folding wall. During this lesson, the wall was open and the classes were combined and working on the same activities. Approximately 50 students were scattered around the two rooms. Some students were seated at desks, while others were sitting on the large seats. Most students were sitting in pairs or in groups of three. The classroom was quite noisy, with a lot of talking. A student showed the researcher her work in her spelling book and explained the tasks they were to complete. The activities included writing out their list words, sorting them into alphabetical order, writing a sentence incorporating each word and finding the meaning of five words in the dictionary. An additional activity involved organising synonyms for 'talk' into groups based on their meaning, for example 'talking quietly' and 'talking quickly'. Another student showed the researcher an outline of the tasks on her iPad. They were emailed their list words and spelling activities for the week last Sunday. Adam wandered the room, aiding students when they asked for help, checking their work and managing behaviour. When the students finished their tasks, they were instructed to hand up their spelling book and they began an extension activity on their iPads.

Observation 3: Lisa.

Lisa has been teaching for seven years. While this was her first year teaching Years 3/4, she had previously had experience with Year 4 when teaching physical education. Lisa's students were seated at their desks, which were arranged in groups of four or five. The class was instructed to get their spelling books and start their spelling activities. The students understood the tasks that they were to complete and were quick to begin their work. Lisa had described this class as having a large range of abilities. Most students were working on an activity that involved finding the meanings of their list words and writing the definitions in their spelling book. Dictionaries in the form of books were being used, with no sign of modern technology such as iPads present within this lesson. The class appeared to be focused on their task and there was little noise. Lisa's role as the teacher was to wander amongst the students, answering questions and providing help where required. Many students were having difficulty finding some of their words in the dictionary, for example the word 'crying'. Lisa instructed them to search for the root word of these verbs, telling students to look up 'cry' instead. As more students continued to experience difficulty with finding these words, Lisa shared the tip with the entire class. One student announced that he had finished the activity and Lisa directed him to a series of posters outlining different spelling activities that were displayed on the wall. By referring to these posters, the student could independently identify the next task that he must complete.

Adam and Lisa's lessons both focused on students gaining familiarity with their list words through completing activities that included sorting their words into alphabetical order and finding their definitions in the dictionary. Fred's lesson differed in that he focused on his students understanding the meaning of their list words and how to use them in the correct context. Due to these observations providing an insight into only one spelling lesson facilitated by each teacher, a group interview was conducted with the participants in order to gain further knowledge of the types of pedagogical practices they use in their classrooms. The findings of the interview are presented below.

Focus group interview.

Following observation of each teacher's spelling lesson, a focus group interview was conducted between the researcher and the teacher participants, with the aim of discussing the participants' beliefs and practices regarding the teaching of spelling. The interview provided the opportunity to expand on the data gained through observation and identify common practices used by the teachers that may not have been exhibited within the observed spelling lessons.

The interview data revealed similarities and differences between the spelling practices implemented by the three teachers in their classrooms. All three teachers conducted a *Single Word Spelling Test (SWST)* at the beginning of the year in order to assess the level of their students' abilities in regards to spelling. Using this test enabled the teachers to identify the types of errors students made, and from this information, the teachers chose the suitable spelling words for students. Following this assessment, students were divided into groups, and given a levelled list of words at the beginning of each week. The number of groups varied between the classes, with Fred using three groups, Adam using four groups and Lisa using five groups. Daily spelling activities were assigned for the students to complete using their list words. Each group was given the same tasks to complete, but the types of words that were allocated within each list varied in terms of difficulty. While the structures of their spelling programs were very similar, the way they were conducted differed between each classroom. A list of these similarities and differences is presented in Table 1.

Table 1.

Similarities and Differences between Participants' Pedagogical Practices for the Teaching of Spelling.

Similar pedagogical practices	Description	Different pedagogical practices	Description
<i>Single Word Spelling Test</i> assessment.	A test used to identify gaps in students' spelling skills.	Whole class discussion reviewing students' use of list words in sentences.	Teacher-facilitated discussion regarding students' sentences, questioning how they can be improved to make more sense.
Spelling groups.	Students are divided into groups based on their spelling abilities.	Meanings test.	A test requiring students to identify the correct list word when the teacher describes its meaning.
Levelled lists.	Word lists of a difficulty appropriate to their level are given to each spelling group each week.	Use of dictionaries in book form.	Students using dictionaries to find the definitions of their list words.
Daily spelling activities.	Activities conducted by students each day to gain familiarity with their list words.	Use of iPads as an extension activity.	When students have completed their daily spelling activities, they are able to play a spelling game on their iPad.
Friday spelling test.	A weekly spelling assessment testing students' ability to spell their list words.	Spelling activities displayed on posters.	A set of posters describing a series of spelling activities to be completed each week.

Fred, in particular, utilised pedagogical approaches different to his colleagues. Fred's individual spelling practice involved using the *SWST* book to construct his lists. This book features lists based on sound or letter patterns, therefore allowing teaching to focus on a particular phoneme or grapheme. Fred explained how in his spelling activities, he not only focuses on students learning how to spell their words, but also places an emphasis on the correct use of these words in context:

So I basically give them the same task to do, which is usually a literal task. They have to use the word in context. And then also, not just the spelling but the vocabulary, which is what that activity was this morning [the meanings test].

This practice is consistent with the pedagogy witnessed during observation of Fred's spelling lesson, which focused on testing the students' understanding of the meaning of their list words.

Routine in spelling lessons.

The pedagogical practice of a "meanings test" was not observed or described by the other participants. Adam and Lisa's spelling programs instead focused mainly on a series of daily activities based on students' list words, which were completed each week. A key theme amongst the teachers was the belief that the establishment of a structured weekly routine for spelling lessons was a significant benefit of their practices. Each participant agreed that regular, repeated use of the same words each day over the school week was instrumental in developing students' spelling skills. Fred stated that "I think the way we approach our spelling is reasonably successful because we treat it really basically... do a basic activity and we do it week after week after week".

The structure of a class routine was also believed to be beneficial in terms of classroom management and student autonomy, as described by Adam:

I think with the activities that we do and the way it's set up, like when we do spelling, they get their books and they're away. So they get a bit of an idea about what they do. The only thing that changes are words that they use.

The establishment of a weekly spelling routine was considered to be important for efficiency as activities could begin without need for extensive instructions from the teacher. Adam stated that time saved through students knowing the tasks they were to complete allowed the teacher to "spend those few minutes regularly with the ones that need it", as described by Adam:

It's probably one of the times when you get a good opportunity to work one-on-one because in other lessons where you might want to work one-on-one or one-with-two the rest of the class aren't sure what they're supposed to be doing, so they're all off the show. So with spelling everyone knows what they're supposed to be doing. Everyone knows each of the tasks.

Adam also described the benefit of routine for providing opportunities for differentiation: "...you're able to tailor a little bit better I guess, the types of words that the kids need to actually be learning". This was evident in the observations, through the use of four different levelled lists, and the provision of an activity relevant to each list, such as the task that involved sorting synonyms of 'talk' based on their meaning. An additional routine within Adam's class was the presence of four adults in the classroom when the spelling lists are introduced at the beginning of the week. This allows each spelling group to have an adult present to set up their learning for the week.

An aspect of Lisa's practices that was distinct from those of Fred and Adam was the use of posters outlining a set of ordered spelling activities that were to be completed each week. This list of activities is presented in Figure 1 below.

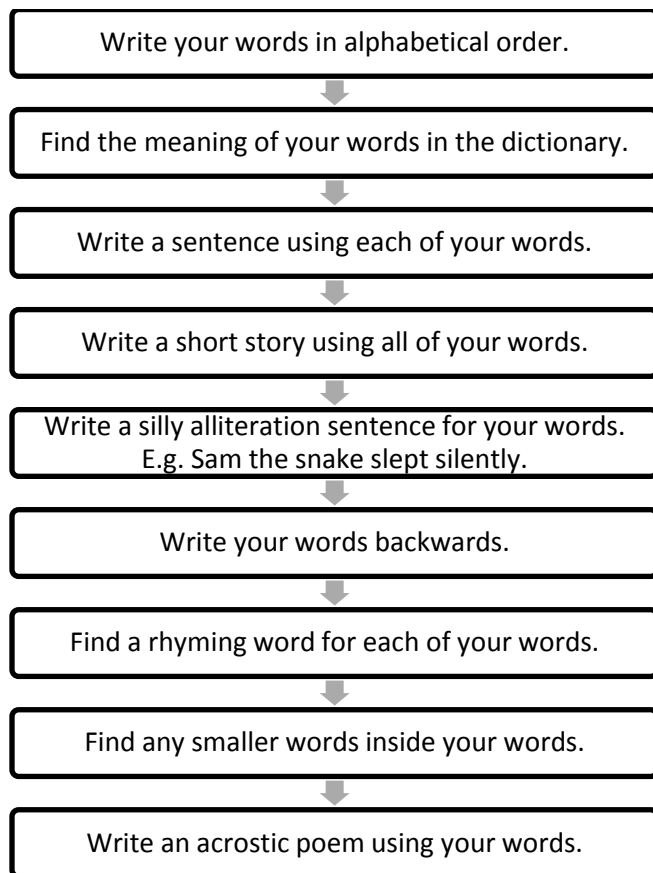


Figure 1. Lisa's weekly spelling activities.

Unlike Lisa, Fred and Adam used a different approach. Adam utilised the technology of iPads by emailing the students their weekly activities, which could be referred to during each spelling lesson. Fred's method of presenting spelling activities was not observed during his lesson or mentioned during the interview.

Incorporation of the Four Types of Spelling Knowledge

Research Question 2: Do Year 4 teachers incorporate the four different types of spelling knowledge (phonological, visual, morphemic and etymological knowledge) as part of their teaching practice as outlined by the Australian Curriculum?

Research Question 2 aimed to explore the ways in which Year 4 teachers teach the four types of spelling knowledge as described by Fellowes and Oakley (2010). The presence or absence of each type of knowledge within each participant's spelling lesson was observed, and is presented below.

Observation data.

Fred's spelling lesson did not explicitly demonstrate aspects of any of the four types of spelling knowledge, as his activities focused on the vocabulary and meaning of the students' list words rather than their spelling. The discussion of word meanings offered the opportunity to

explore morphemic or etymological aspects of their words, such as root words or origins, yet evidence of this was not observed. Due to this lesson not focusing on word structure or patterns, phonological and visual knowledge were not addressed in the activities Fred set for his students.

Adam's spelling activities also appeared to lack explicit learning involving each of the four types of knowledge. Instead, his activities tended to involve repetition in writing the list words (through writing them down and sorting into alphabetical order), and becoming familiar with the meanings of the words and using them in context (through writing sentences and finding dictionary definitions).

Like Adam's class, most of Lisa's students were working on an activity involving finding the definitions of their list words. While there was little noted focus on phonological or visual knowledge in this lesson, evidence of its presence within Lisa's teaching was observed in her sequence of spelling activities (see Figure 1). The activities of writing alliteration sentences and finding rhyming words addressed the phonological domain through the identification of the sounds within the words. The activity involving finding smaller words inside the list words also required visual knowledge through identifying letters within parts of words. Morphemic knowledge was addressed incidentally throughout the lesson, as Lisa was required to explain to individual students the need to search for the root words of certain list words in the dictionary, however there appeared to be no evidence of etymological knowledge being addressed.

Observation of the three teachers' spelling lessons revealed the absence of intentional and comprehensive inclusion of each of the four types of spelling knowledge. Similarities between the participants' practices included a focus on understanding the meanings of the list words, repeated use of words in basic daily spelling activities and the nonexistence of etymological knowledge. Notable differences in the practices observed included Fred's meanings test and review of sentences, and Lisa's opportunistic teaching of morphemic knowledge. While evidence of the incorporation of three of the four types of spelling knowledge was identified, their presence was limited and lacked depth and focus. The strengths of the observed lessons included the establishment of routines for the teaching and learning of spelling, which ensured that students were familiar with the tasks they were to complete and therefore provided more opportunity for one-to-one or small-group teaching.

Focus group interview data.

Questions posed by the researcher in the focus group interview asked the participants to describe how they taught each type of spelling knowledge in their classroom. Participant responses to these questions are presented below.

Teaching phonological knowledge.

The participants described a range of activities relating to the development of phonological knowledge, including word brainstorming and writing words based on their phonological spelling. Adam stated that phonological knowledge was often addressed through the structure of the students' list words. For example, a list may be constructed of words containing a particular sound, which are represented by different spellings: "Half the list might be sort of 'ou' as in 'ould' or 'ou' as in 'cloud'. Like they'd be in the same list, so they can have a

few examples of each”. Opportunities were also provided for students to think of their own words that incorporate the phoneme that was being focused on. This was illustrated by Lisa, who described an activity where students would categorise words based on their sound: “With ‘could’ and ‘cloud’ ... it’s the same spelling but different sounds... I’d sort of do like a word brainstorm on the board and put them into different categories”.

Another method described by Fred was to write words based on the way they sound as well as the way they are correctly spelt:

I’d do a similar thing where you give them the word and you say right, ‘how do you say the word?’ So how do we write it so that everyone can read it? So like ‘could’ you would write ‘cood’ ... you put that in your head and you go ‘but you know you don’t say it that way’, and they do and they go ‘yeah I know’ ... This is how it’s written and this is how it sounds.

Teaching visual knowledge.

When asked how they taught the use of visual knowledge within their spelling lessons, Adam and Fred described similarities to their practices for teaching phonological knowledge: “Sort of like what we’ve just said”; “Yeah, this is what it looks like; this is what it sounds like”. The spelling program *Letters and Sounds* (Department for Education and Skills, 2007), which is implemented within the early childhood classes at the participants’ school, has a heavy focus on the development of phonological and visual knowledge. This program is designed to develop phonics knowledge and skills in students from Kindergarten to Year 2 through six phases of instruction ranging from the segmentation of speech sounds to the spelling of words using prefixes and suffixes (Department for Education and Skills, 2007). This focus on letter-sound relationships, however, does not fully continue into middle and upper primary, as explained by Fred:

And obviously that [*Letters and Sounds*] disappears in the upper grades, doesn’t it, completely. It’s like a lot of things disappear in the upper grades and there’s a lot of assumption that children can do it already. Children can write, children can spell, children can read. And they cannot. There’s some that can. There’s your two, three, four children in your class who can do it all. And then there’s others, rapidly drops off.

One benefit of programs such as *Letters and Sounds* was the corresponding charts that display the phonemes used within English and the different graphemes representing each sound. The participants mentioned *THRASS* charts as being a valuable resource, however, stated that they were not able to display them in the classroom because their school was not currently running that program:

Lisa: See those charts are really good.

Fred: But we don’t run that program anymore.

Lisa: That’s the thing. It’s gone.

Fred: If we don’t run the program, I can’t just put the chart out and say well this is the *THRASS*.

Despite the success of *Letters and Sounds* and the statement of the need for many middle and upper primary children to continue developing their phonological and visual knowledge, these types of knowledge had a minimal presence within the teaching of spelling in Year 4.

Teaching morphemic knowledge.

As with phonological and visual knowledge, the participants described a limited number of practices relating to morphemic knowledge. The teaching of morphemic knowledge tended to be incidental, as stated by Adam: "... have the one-on-one conversation with the people who are needing to know that information there and then, rather than saying 'okay here we're going to do a lesson on prefixes and suffixes' and then it's over their head". The belief among the teachers resulting in this view was that an in-depth focus on linguistic features would be too difficult for many of their students, as described by Fred: "The weaker group would be 'today we're going to show how to add 'ing' to a word'. And I probably wouldn't even use the terminology suffix or prefix too much with them".

Fred described a more comprehensive approach for teaching morphemic knowledge to his top spellers, stating that he would allow them the independence to research the meaning of a given prefix or suffix themselves: "And again it's the different spellers because you know your top spellers. You'll say all your words start with 'dis' this week. Go and search what 'dis' means". The level of abilities within his classroom was therefore clearly an important factor influencing Fred's decisions surrounding the content he teaches.

Specific ways in which the participants suggested they would teach morphemic knowledge included adapting their spelling lists to focus on a particular prefix or suffix. Adam stated that some of his activities for his list words referred to linguistic features:

Some of the activities that we do, actually like sort of ask or refer to suffixes and prefixes... we'll have the conversation about the suffixes and prefixes. There was one I think, the change the word or the antonym for that word using like 'dis' or 'mis' at the beginning.

Another method Adam used, particularly for the higher-achieving spellers, was to identify base words: "Even just referring them to like base words, like with the top ones especially... What's the base word for 'disappearance'? And have the conversation with the kids and then refer to the 'dis' at the beginning". An additional practice suggested by Fred was the value of large, basic posters explaining the meaning of terms:

And sometimes just having a really big basic poster. Nothing too much on it, but 'suffixes is something at the end of a word'. And have two or three examples is enough for half the class to learn it because they'll sit there looking at you, but they're actually looking at the poster.

Teaching etymological knowledge.

Similar to the responses given in reference to morphemic knowledge, the teachers stated that they did not teach etymological knowledge (word origins) in Years 3/4 and only discussed it if it happened to come up during a conversation about students' work:

Fred: I would teach it less again, at grade 4, I would teach it less... But things like, [when addressing a word from another language] I would go 'now why do you think it's spelt that way?' And again, it's directed at half your class and they'll go 'because it comes from another language', and I'll go 'do you want to have a guess at what language that might come from?' And I'm hoping that the better spellers can guess that it's either French, maybe Italian, Latin or possibly something like German.

Adam: And I'm the same, I don't teach word origins unless it comes up in a conversation about the kids' work.

Lisa: Same.

Fred: At 3/4 I don't teach it.

Adam: I know in my class, with the conversations, like you don't explicitly teach it but it's more so like unicycle or like what's the 'uni' mean?

Fred stated that he had taught word origins at this year level before, however, he specified that he would require "at least half a dozen top level spellers, who actually have the ability to work independently". As with his teaching of morphemic knowledge, Fred would ask these students to conduct their own independent research: "I say 'here's your spelling words, they're all from other countries this week. Go and find the origin of these words and I want you to put them in context, and, can you find other words in that language that we use?'"

While no reference to etymological knowledge was observed during the participants' spelling lessons, Fred shared an anecdote from a recent occurrence in his classroom, where students viewed some Aboriginal words:

I said "what language do you think that is?" And they said it's probably Aboriginal, and I said "how do you know?" And he said it just looks Aboriginal. Just the way they use their letter, the way they write their words, and I said "that's great".

This experience again supports the teachers' statements that they only teach word origins opportunistically. No explicit and structured teaching of etymological knowledge was described. Instead, this type of knowledge was only addressed within conversations and incidental teaching opportunities.

Absence of knowledge.

The observation and interview data revealed a significant absence of a comprehensive focus on each of the four types of knowledge within the participants' teaching practice. It was discovered that the lack of focus on phonological awareness and development within the middle to upper year levels was a barrier faced by students in their learning about spelling:

Fred: I think by the time they get to grade 4, we don't do enough sounding and phonics with the children, as they get in the younger grades. We probably, for the better spellers, we've passed that almost completely.

Lisa also stated that “there’s a few of them [students] that still need to be in that program...” Despite the participants emphasising the need for their students to receive further instruction relating to phonological and visual knowledge, there was limited evidence of them incorporating this within their teaching of spelling. Spelling activities undertaken within Adam and Lisa’s classrooms tended to involve simple tasks, such as ordering list words into alphabetical order, rather than providing opportunities to explicitly make connections between the letters and sounds, for example, by segmenting words into their phonemes and graphemes.

In addition to the lack of a specific phonics program within the middle to upper years, the participants described time as a factor influencing the absence of phonological and visual knowledge in their practices. The limited time available to teach spelling and provide the desired amount of support for students who need extra assistance or extension was repeatedly referred to throughout the interview:

Adam: It’s difficult to find the time to actually teach those phonics rules in amongst our regular spelling.

Fred: ... but that’s probably the only opportunity you have to teach that sound or pattern. Isn’t it? Because you’re not going to go back and do ‘ou’ next week and ‘ou’ the week after. You get probably one opportunity every year to do that with the children as you go through.

Lisa: We’ve often said that there’s a few of them that still need to be in that program [*Letters and Sounds*] but that’s just... time.

The presence of morphemic and etymological knowledge was featured even less within the participants’ pedagogical practices. Adam described a reluctance to conduct lessons focusing specifically on morphemic principles, such as the addition of a prefix or suffix, as he believed it would be too difficult for his students to comprehend: “... have the one-on-one conversation with the people who are needing to know that information there and then, rather than saying ‘okay here we’re going to do a lesson on prefixes and suffixes’ and then it’s over their head”. A similar notion was shared by Fred, who stated that while the proficient spellers could successfully learn about morphemic knowledge independently, he would need to keep his teaching much more simplified with the other students: “So it’s more directly teaching and telling them. So the top ones do it for themselves, the bottom ones you keep simple, and the middle ones you’re helping them a lot more”. The reluctance to teach morphemic knowledge was evident through its absence in the activities observed in each teacher’s spelling lesson.

A complete absence of etymological knowledge was discovered during both the observations and the interview. There were no aspects of this knowledge domain present within the observed spelling activities. This was consistent with the participants’ responses during the interview, where it was revealed that all three teachers agreed that they would not teach it in Year 4. Etymological knowledge would only feature in their classrooms through opportunistic conversations with students or with a group of proficient spellers who had the ability to work independently.

Chapter Summary

This chapter has presented the findings for the two research questions. The types of pedagogical practices used by participants, as observed during their spelling lessons and described during the focus group interview, were summarised, and found that levelled word lists and repeated use of these words within daily activities in preparation for weekly tests, were common practices for the teachers.

The second research question was then addressed by describing how the participants taught the four types of spelling knowledge. Minimal evidence of the incorporation of phonological, visual and morphemic knowledge was identified, while etymological knowledge was completely absent within their teaching of spelling in Year 4.

Themes emerging from analysis of the data included the importance of routine for the participants, the tendency to use traditional teaching approaches and an absence of a focus on each of the four types of spelling knowledge within the teaching and learning of spelling. The following chapter discusses these themes in relation to current spelling literature, and outlines the implications for students, teachers and spelling education.

Chapter 5: Discussion

Introduction

Results from the research describing the pedagogical practices currently used by Year 4 teachers were presented in the previous chapter. These findings revealed that traditional teaching approaches were favoured by the participants, and that there was an absence of the four types of spelling knowledge within their practices. This chapter discusses the differences observed within the participants' approaches and how these approaches align with the research literature. The chapter concludes by discussing the resulting implications for students, teachers and the education of spelling. Each research question has been discussed independently to provide clear links to the results.

Year 4 Teachers' Pedagogical Practices

Research Question 1: What pedagogical practices are Year 4 teachers currently using to teach spelling in their classroom?

Analysis of the data revealed that the Year 4 teachers typically used similar pedagogical practices for the teaching of spelling that involved the use of differentiated groups, levelled word lists and daily spelling activities culminating in a weekly test. The majority of these practices align with a traditional approach towards teaching spelling, however, evidence of elements of practices currently recommended within the literature were displayed by one participant. Each approach is discussed below and linked with the literature, followed by a discussion of the implications of these pedagogical practices for both students and teachers.

Traditional approach.

Adam and Lisa's pedagogical practices tended to align with Heald-Taylor's Traditional Paradigm (1998). Their practices were characterised by direct teaching and rote learning through repeated use of word lists within daily activities in preparation for weekly tests (Heald-Taylor, 1998). Observation and discussions demonstrated limited teaching that emphasised spelling as a thinking process that can be learnt in a variety of ways.

Pedagogical practices aligning with the Traditional Paradigm often lack explicit instruction of cognitive strategies for spelling words. This is significant, as research has found that proficient spellers possess a collection of strategies for learning and recalling the spelling of words, whereas less competent students often have less developed metacognitive skills, therefore possessing few strategies (Kraai, 2010). Traditional methods of teaching spelling predominantly involve the strategy of rote learning and memorisation. According to Westwood (2014), rote learning is not an efficient method of learning to spell, as it limits students to acquiring knowledge of spelling one word at a time, therefore not allowing learners to identify spelling patterns. This means that students may face difficulties when required to attempt spelling unfamiliar words, as they have limited understanding of the patterns in words that can assist them. Students need to be taught a variety of cognitive strategies that they are able to implement when attempting to spell an unfamiliar word, such as those outlined by Westwood (2014) in Table 2.

Table 2.
Common Spelling Strategies (Westwood, 2014).

Common strategies used by learners to spell unknown words
Rehearsing the spelling by orally repeating the names of the letters in sequence.
Using phonemic knowledge to segment the sounds in the word.
Using knowledge of the spelling of similar sounding word (e.g. a rhyming word).
Applying spelling rules.
Use of mnemonics for recalling difficult words.
Using morphemic and etymological knowledge (e.g. word meanings, derivations, prefixes/suffixes).
Using a dictionary or spell-checker.
Asking a proficient speller for help.

The need to equip students with a range of spelling strategies is emphasised within the Australian English Curriculum, which details content relating to all forms of spelling knowledge in reference to understanding of different approaches for spelling a word (ACARA, 2014b). A traditional teaching approach relying solely on rote learning and memorisation consequently does not meet curriculum requirements. Westwood (2014) stated that best practice for teaching spelling is evident in approaches that emphasise the logic and patterns within English spelling, rather than sending the message that the spelling of words is random through a focus on learning through memorisation and rote. This type of practice was not observed within the participants' spelling lessons and appeared to have a minimal presence within their pedagogy due to the lack of a focus on morphemic knowledge, which involves the understanding of spelling rules and patterns in the way words change form.

While the Australian Curriculum and research literature do not encourage the Traditional approach as a primary form of pedagogy, rote learning can be beneficial for students when learning to spell irregular words, such as 'said', which do not contain predictable letter-sound representations (Westwood, 2014).

Spelling words in context.

Fred implemented many of the same pedagogical practices as Adam and Lisa, utilising the traditional methods of levelled word lists, spelling groups and weekly tests. A point of difference in Fred's teaching, however, was his increased focus on students learning to spell their list words within context. This practice was frequently referred to and emphasised by Fred as a critical element of spelling education, a notion which is supported within the literature (Alderman & Green, 2011; Bush, 2008).

Fresch's (2007) study exploring teachers' concerns about spelling instruction found that many teachers share the concern, which was also raised by the current study's participants, that students were not transferring their skills learnt through weekly spelling tests into their writing, despite 70% of the participants believing that repeatedly writing words helps students to remember how to spell them. This concern spanned across teachers from all grade levels. Fresch (2007) maintained that the memorisation approach for learning spelling may contribute to the inability to spell words across different contexts. This particularly may be the case if students perceive their weekly activities and tests as "spelling" and ignore its presence within contextual writing (Fresch, 2007). Bush (2008) also stated that it is important for students to recognise the link between learning words in preparation for a test and spelling them correctly in writing contexts: "We need to see spelling not as learning words, but as learning about words" (p. 26). Spelling programs must highlight the importance this skill plays in the process of communication, which can be achieved through teaching a variety of spelling strategies and investigating words (Bush, 2008). Alderman and Green (2011) recommend giving students recognition when using correct spelling in their written work across a range of contexts, rather than focusing on grades in weekly tests. Praising an individual's progress over a period of time and placing value on effort and improvement is more encouraging than conveying achievement as competition among peers to gain the best score (Alderman & Green, 2011).

The importance of learning and using words within the correct context is also highlighted in the Year 4 Australian English Curriculum. The content description, "Recognise homophones and know how to use context to identify correct spelling" emphasises the need to understand the meaning of words both for the purpose of reading comprehension and awareness of spelling (ACARA, 2014b). Homophones, words that sound identical but are spelt differently, in particular require knowledge of context. For example, a student must understand the circumstances in which the words 'there', 'their' and 'they're' are used, in order to know which spelling to use.

Fred's pedagogical practices, as observed within his spelling lesson, therefore demonstrated an example of effective practice. The focus on learning words within the correct context helps to ensure students will be able to spell their words in situations following their weekly test.

Absence of the Four Types of Spelling Knowledge

Research Question 2: Do Year 4 teachers incorporate the four different types of spelling knowledge (phonological, visual morphemic and etymological knowledge) as part of their teaching practice as outlined by the Australian Curriculum?

Research findings indicated a limited presence of explicit teaching incorporating the four types of spelling knowledge. The significance of their absence in classroom teaching and learning, and the resulting implications for students, teachers and spelling education, are discussed below and supported by relevant literature.

Phonological and visual knowledge.

The teacher participants indicated a reduced focus on phonological and visual knowledge in the middle and upper years of primary school following the conclusion of the successful

Letters and Sounds program in the early years. While the participants described their weekly word lists as being structured around a particular phoneme or grapheme, there appeared to be minimal teaching focusing on these sounds and letters.

During the interview process, the participants stated that some of their students would greatly benefit from continued instruction based on the *Letters and Sounds* program. This opinion is supported by results from the 2013 NAPLAN spelling test, which found that 7.5% of Year 3 and 8.6% of Year 5 Tasmanian students achieved below the national minimum standard (ACARA, 2013). The minimum standards for Years 3 and 5, depicted in Table 3, describe the ability for students to identify and correct errors in words based on particular phonological features, such as one-syllable words (ACARA, 2011a). This highlights the requirement for students undertaking these tests to possess an understanding of sound-letter relationships that will help them to identify the errors. The outcome of Tasmania's 2013 tests therefore suggest that the 16.1% of students performing below these standards need an increased understanding of phonological and visual knowledge in order to improve their results. A further 27% of children performing at the national minimum standard may also benefit from additional focus on phonological and visual knowledge to further develop their spelling (ACARA, 2013).

Table 3.
NAPLAN Minimum Standards for Spelling (ACARA, 2011a).

	Year 3 standards	Year 5 standards
Students can correct identified errors in:	<ul style="list-style-type: none"> • Frequently used one-syllable words. • Frequently used two-syllable words with regular spelling patterns. 	<ul style="list-style-type: none"> • Frequently used one-syllable long vowel words. • Frequently used one-syllable words with irregular spelling patterns. • Common one-syllable verbs with tense markers. • High frequency two-syllable words.
Students can identify and correct errors in:		<ul style="list-style-type: none"> • Frequently used one-syllable words. • High frequency compound words. • Less frequently used multi-syllable words with double letters.

Morphemic and etymological knowledge.

Data analysis revealed that the teacher participants incorporated minimal learning opportunities relating to the development of morphemic knowledge. When the teachers did address this knowledge domain, it tended to be opportunistic, by providing students with the information in the moments when they required it. The depth at which they would explore

morphemic knowledge also depended on the level of ability possessed by the students. Proficient spellers would be given research based tasks, where they were instructed to independently determine the meanings of a particular morpheme and find other words in which it is present. Weaker spellers, however, would receive instruction at a much more basic level, absent of terminology relating to the domain, such as ‘suffix’ or ‘prefix’.

Similar practices were revealed in relation to the teaching of etymological knowledge. All three teachers stated that they did not teach word origins in Year 4. Fred stated that if he were to teach word origins, it would need to involve a group of proficient spellers. As with morphemic knowledge, reference to etymology was solely opportunistic, in circumstances where it arose within a conversation.

The importance of providing more attention to the development of morphemic and etymological knowledge and their benefits for the learning of spelling is profoundly supported within the literature (Apel, Wilson-Fowler, Brimo & Perrin, 2012; Berninger, Abbott, Nagy & Carlisle, 2010; Carlisle, 2010; Goodwin, Lipsky & Ahn, 2012; Hutcheon et al., 2012). Morphemic strategies allow students to dissect complex or unfamiliar words by breaking them down and identifying the base word (Kieffer & Lesaux, 2007). Once a student is able to identify and use morphemes, such as ‘pre-’, ‘-ight’ and ‘-ally’, as opposed to a reliance on decoding single letter-sound relationships, additional English words become easier to spell (Westwood, 2014). The advantages of these strategies were reported in a study by Devonshire and Fluck (2010, as cited in Reed, 2012), who found that students between the ages of five and eleven who were able to make morphemic connections when attempting to spell words, received higher scores than students who used only phonological or memory-based retrieval strategies. The researchers stated that understanding and application of morphemic strategies takes time to develop, therefore students need to be explicitly taught the components of words in order to more successfully predict the spelling of irregular or more complex words (Reed, 2012). An awareness of morphemic knowledge can also improve reading comprehension by allowing students to decode the meaning of unfamiliar words (Goodwin et al., 2012). For example, the word ‘characteristic’ is formed through the base word ‘character’ and the morpheme ‘istic’. Through an understanding of these parts of the word, readers can deduce the meaning of ‘characteristic’ (Goodwin et al., 2012).

An understanding of etymological knowledge is also important, as the English language contains many words that are derived from or influenced by other languages (Westwood, 2014). These words do not always obey the phonological principles underpinning English, therefore students can benefit from gaining etymological knowledge that can aid students in spelling these words.

The tendency for morphemic and etymological knowledge to appear only through opportunistic teaching was concerning, given its degree of emphasis within the Australian Curriculum. Both levels of knowledge are explicitly mentioned within the Year 4 English Curriculum, and are further described in the Language strand overview: “They [students] learn that the conventions, patterns and generalisations that relate to English spelling involve the origins of words, word endings, Greek and Latin roots, base words and affixes” (ACARA, 2014b). Westwood (2014) states that while students are able to comprehend morphemic knowledge through regular exposure to words within meaningful contexts, this can be

significantly enhanced through explicit instruction. Comprehension of information relating to the derivation of words involves the highest level of cognition, which is presently achieved by few students due to the lack of focus on this area within schools (Arndt & Foorman, 2009, as cited in Westwood, 2014; Carlisle, 2010). The absence of whole-class approaches for the teaching of these spelling domains in the middle to upper grades was also reported by Hutcheon, Campbell & Stewart (2012), who stated that instruction tended to be directed to younger students or students with learning difficulties.

Of further concern was the statement that much of the teaching and learning occurring in Years 3 and 4 would continue the same within Years 5 and 6. Aspects of spelling education that were found to be lacking in Year 4, including morphemic and etymological knowledge, have an increased presence within the Year 5 and 6 English curricula, as shown in Figure 3. This information therefore raises the question of whether upper primary students are experiencing structured teaching of these areas of spelling knowledge as specified within the curriculum. Failure to gain morphemic and etymological knowledge within the primary school years can result in students entering high school with continued difficulties with spelling, which can have a significant negative effect both during school and potentially in the workforce (Hutcheon et al., 2012).

Year 4	Year 5	Year 6
<ul style="list-style-type: none"> • Understand that Standard Australian English is one of many social dialects used in Australia, and that while it originated in England it has been influenced by many other languages (ACELA1487)/ • Incorporate new vocabulary from a range of sources into students' own texts including vocabulary encountered in research (ACELA1498). • Understand how to use strategies for spelling words, including spelling rules, knowledge of morphemic word families, spelling generalisations, and letter combinations including double letters (ACELA1779). • Recognise homophones and know how to use context to identify correct spelling (ACELA1780). 	<ul style="list-style-type: none"> • Understand that the pronunciation, spelling and meanings of words have histories and change over time (ACELA1500). • Understand the use of vocabulary to express greater precision of meaning, and know that words can have different meanings in different contexts (ACELA1512). • Understand how to use banks of known words, as well as word origins, prefixes and suffixes, to learn and spell new words (ACELA1513). 	<ul style="list-style-type: none"> • Understand how to use banks of known words, word origins, base words, suffixes and prefixes, morphemes, spelling patterns and generalisations to learn and spell new words, for example technical words and words adopted from other languages (ACELA1526).

Figure 2. Content descriptions relating to morphemic and etymological knowledge within Years 4-6 in the Australian English Curriculum (ACARA, 2014b).

Westwood (2013) suggests a number of reasons as to why teachers are not incorporating morphemic and etymological knowledge within their spelling teaching. One explanation was that

many primary school teachers do not possess knowledge within these areas and are therefore reluctant to teach it. Lack of depth in morphemic knowledge may be attributed to its absence within education courses in Australia (Westwood, 2013). Teachers consequently enter the profession without confidence in teaching word study, which may result in a reliance on commercially published spelling programs (Westwood, 2013).

The Implications

Implications for school students suggested by the results of this study are that they may not be receiving a literacy education that fully equips them with the skills to successfully spell. The Australian English Curriculum explicitly outlines each of the four types of spelling knowledge as content areas for Year 4 (ACARA, 2014b). However, teaching and learning addressing these areas appears to be minimal and shallow, conducted solely through preparation for weekly tests or opportunistic conversations, with limited focus on strategies and spelling patterns. Many researchers, including Bush (2008), have highlighted the importance of possessing a repertoire of strategies ranging across all knowledge domains, which can be applied when spelling unknown words. The dominance of traditional practices does not adequately provide students with these strategies, therefore resulting in difficulties spelling words in contexts outside of classroom spelling tests (Campbell & Green, 2011).

In addition to implications for students, a significant implication for teachers is that it is essential that they are equipped with the knowledge and skills to effectively teach spelling. If teachers convey an interest in words and their origins, and have an enhanced understanding about the English language and strategies for spelling, there is a greater chance that the students themselves will develop these understandings (Bush, 2008). However, research findings (see: Carreker et al., 2010; Cunningham et al., 2004) have found a lack of teacher knowledge regarding aspects of spelling. Fresch's (2007) study also found an absence of knowledge of spelling pedagogy, with teachers stating that they were unsatisfied with the results from their traditional methods, but were unsure as to how they could more effectively teach their students. The recently published *Review of the Australian Curriculum* (Australian Government, 2014) echoes these findings. In reference to the failing standards of students' literacy skills, the review stated that this was an issue not only in terms of the intended curriculum, but also of the quality of teacher knowledge and capability and the effectiveness of teacher education courses in preparing teachers to successfully implement the curriculum into the classroom. In particular, it was questioned how teachers educated within the whole-language era, who received little teaching of grammar due to spelling being taught through writing rather than as a separate subject, would be able to support students in achieving the learning outcomes requiring complex understanding of grammar in Years 3-6 (Australian Government, 2014). These findings suggest that university education courses need to provide more in-depth instruction in effective practices for the teaching of spelling to pre-service teachers. In addition, in-service teachers need to be receiving professional learning opportunities that provide up-to-date knowledge and practices in order to reflect on and enhance their teaching.

Chapter Summary

This chapter presented a discussion of the research findings for the current study. The first research question was addressed through a discussion of the differences between the

participants' teaching practices. It was found that the teachers predominantly used traditional approaches to teach spelling, which have been identified within the literature as ineffective due to a lack of focus on spelling strategies and patterns.

The chapter then addressed the second research question by discussing the significance of the absence of each of the four types of spelling knowledge from each teacher's pedagogical practices. Each type of spelling knowledge was found to be vital for providing students with a variety of strategies to use when attempting to spell unknown words.

Finally, the chapter concluded by discussing the implications of these findings for both students and teachers. It was suggested that pre-service and in-service professional development courses need to provide more comprehensive attention on effective spelling practices, in order to equip teachers with the appropriate knowledge required to successfully teach spelling.

Chapter 6: Conclusion

Introduction

This research was an investigation into the pedagogical practices that are used by Year 4 teachers to teach spelling, focusing particularly on if, and how, these teachers incorporate learning based on phonological, visual, morphemic and etymological knowledge. Research literature suggests that spelling pedagogy should involve teaching students a variety of strategies for spelling words, including those relating to the four types of spelling knowledge. Many teachers, however, are implementing practices that rely on rote learning and memorisation, rather than emphasising the spelling patterns within the English language. This research aimed to understand this gap between research knowledge and classroom practice.

Summary of Findings

The main findings gained through the research investigation are summarised below in regards to each research question.

The research revealed that the three teacher participants predominantly used pedagogical practices aligning with the Traditional approach, evident through practices such as daily activities implying the need for memorisation in preparation for weekly tests. One participant, however, emphasised the importance of students learning to spell words in context. His observed spelling lesson provided evidence of this through an activity reviewing the correct use of list words in sentences, and the facilitation of a meanings test, to ensure that students understood the meaning of the words they were learning to spell. Little focus was given to the development of knowledge of spelling patterns and strategies for spelling unknown words. These findings indicate that both pre-service and in-service teachers need to receive increased professional learning opportunities in regards to currently recommended pedagogical practices for the teaching of spelling.

Findings for Research Question 2 revealed a significant absence of teaching and learning relating to each of the four types of spelling knowledge. Limited opportunities were provided for students to continue developing phonological and visual knowledge, as learning within these domains was predominantly focused on only within the early years, despite the participants stating the need for many students to improve on these skills. Morphemic knowledge also had a minimal place within the participants' teaching, with learning in this domain tending to occur opportunistically. All three participants stated that they did not teach etymological knowledge in Year 4, due to the belief that it would be too difficult for majority of their students. These findings suggest that students are not receiving the knowledge and understanding required to effectively implement strategies for spelling unfamiliar words.

Future Research and Recommendations

This research adds to the understanding of Year 4 teachers' current pedagogical practices for the teaching of spelling. It also highlights the absence of the four types of spelling knowledge within the teaching and learning of spelling. In light of previous research and the findings from the current study, it appears that many teachers continue to use Traditional practices, with little focus on the development of the four types of spelling knowledge, despite its emphasis within

the research literature. Based on these findings, it can be concluded that upper primary teachers may not be aware of currently recommended pedagogical practices, therefore the education of spelling needs to receive more attention within schools.

Minimal literature currently exists in relation to the teaching of spelling within the middle to upper primary years. This research therefore proposes that further research is required to investigate how spelling can effectively be taught within these upper primary years, and whether these approaches are being implemented into classroom practice.

Due to the minimal focus placed on spelling within teacher education courses (Australian Government, 2014; Westwood 2008), it is argued that increased attention is given to developing pre-service teachers' knowledge of spelling principles and effective pedagogical practices, particularly in relation to the four types of spelling knowledge. In addition, it is suggested that in-service teachers receive greater professional learning opportunities in order to raise awareness of current recommended approaches.

Research Limitations

It is acknowledged that there were a number of limitations associated with this study, which should be taken into account when considering the research findings. Limitations were experienced due to the minimal research literature in regards to spelling, particularly for the upper primary years. The study was also limited by time constraints involved in producing an Honours thesis, and by difficulties experienced in recruiting participants. Due to these difficulties, a limited sample of three participants from a single school participated in the research. As a result, pedagogical practices implemented by the participants may share similarities due to the spelling framework for the participating school. Consequently, the findings cannot be generalised to the whole population of Year 4 teachers, however, they do provide an insight into how spelling may currently be being taught within Tasmania. In addition, a focus group interview was undertaken due to the inability to conduct individual interviews. This approach may have resulted in limitations within the data collection, due to response time needing to be shared between the participants, therefore limiting opportunities for each teacher to share their ideas, and the presence of their colleagues potentially influencing their responses.

Concluding Comments

As indicated within the research literature, the way spelling is taught can have a significant impact not only on students' achievement at school, but also on their future job aspirations and daily living. It has been suggested within this thesis that increased attention needs to be given to improving teacher knowledge and pedagogical practices in order to enhance students' spelling achievement.

Sampson, Rasinski and Sampson (2003) stated that "our job as teachers is to model, encourage, and inspire as well as to teach and inform". While teaching and learning spelling may not be easy, it is important that teachers provide students with opportunities to develop interest in words and spelling, as well as the knowledge and strategies required for successful spelling. Inspiring and supporting students through effective pedagogical practices for spelling will ensure

one significant step is made in contributing to students paving the way towards a successful future.

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Appendix A

Ethics Approval

Social Science Ethics Officer
Private Bag 01 Hobart
Tasmania 7001 Australia
Tel: (03) 6226 2763
Fax: (03) 6226 7148
Katherine.Shaw@utas.edu.au



HUMAN RESEARCH ETHICS COMMITTEE (TASMANIA) NETWORK

26 May 2014

Ms Belinda Hopwood
Faculty of Education
Locked Bag 1307

Student Researcher: Caitlin Kennedy

Sent via email

Dear Ms Hopwood

Re: MINIMAL RISK ETHICS APPLICATION APPROVAL
Ethics Ref: H0014078 - Learning to Spell: An Examination of Year 4 Teachers' Beliefs,
Knowledge and Practices for the Teaching of Spelling

We are pleased to advise that acting on a mandate from the Tasmania Social Sciences HREC, the Chair of the committee considered and approved the above project on 20 May 2014.

This approval constitutes ethical clearance by the Tasmania Social Sciences Human Research Ethics Committee. The decision and authority to commence the associated research may be dependent on factors beyond the remit of the ethics review process. For example, your research may need ethics clearance from other organisations or review by your research governance coordinator or Head of Department. It is your responsibility to find out if the approval of other bodies or authorities is required. It is recommended that the proposed research should not commence until you have satisfied these requirements.

Please note that this approval is for four years and is conditional upon receipt of an annual Progress Report. Ethics approval for this project will lapse if a Progress Report is not submitted.

The following conditions apply to this approval. Failure to abide by these conditions may result in suspension or discontinuation of approval.

1. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval, to ensure the project is conducted as approved by the Ethics Committee, and to notify the Committee if any investigators are added to, or cease involvement with, the project.

A PARTNERSHIP PROGRAM IN CONJUNCTION WITH THE DEPARTMENT OF HEALTH AND HUMAN SERVICES

2. Complaints: If any complaints are received or ethical issues arise during the course of the project, investigators should advise the Executive Officer of the Ethics Committee on 03 6226 7479 or human.ethics@utas.edu.au.
3. Incidents or adverse effects: Investigators should notify the Ethics Committee immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
4. Amendments to Project: Modifications to the project must not proceed until approval is obtained from the Ethics Committee. Please submit an Amendment Form (available on our website) to notify the Ethics Committee of the proposed modifications.
5. Annual Report: Continued approval for this project is dependent on the submission of a Progress Report by the anniversary date of your approval. You will be sent a courtesy reminder closer to this date. Failure to submit a Progress Report will mean that ethics approval for this project will lapse.
6. Final Report: A Final Report and a copy of any published material arising from the project, either in full or abstract, must be provided at the end of the project.

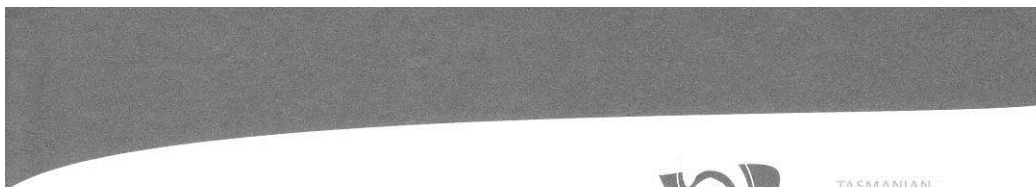
Yours sincerely



Katherine Shaw
Executive Officer
Tasmania Social Sciences HREC

Appendix B

Tasmanian Catholic Education Office Approval



4 June 2014

Ms Caitlin Kennedy
C/- Faculty of Education
University of Tasmania
Private Bag 66
Hobart TAS 7001

Dear Caitlin

I am writing in regard to your recent request to conduct the research study; *Learning to spell: An examination of year 4 teacher's beliefs, knowledge and practices for the teaching of spelling* in Tasmania's Catholic schools.

I have read the information provided which outlines details of this research project and, subsequently, I am happy to provide in principle approval. Please note however, that it is up to the individual school to determine whether they wish to participate in the study.

Please do not hesitate to contact this office if you require any further information.

Yours sincerely

Dr Trish Hindmarsh
Director

th kk

Appendix C

Information Sheet and Consent Form for Principals



Principal Information Sheet [version 2] [21/05/2014]

Learning to Spell: An Examination of Year 4 Teachers' Beliefs, Knowledge and Practices for the Teaching of Spelling

Dear _____,

I would like to invite your school to participate in an exciting research project entitled "Learning to Spell: An Examination of Year 4 Teachers' Beliefs, Knowledge and Practices for the Teaching of Spelling". The purpose of this research is to explore the pedagogical practices Year 4 teachers use to teach spelling, and how their own beliefs and knowledge influence their choice of pedagogy and way of teaching in the classroom. The project will be conducted by the following team:

Chief Investigator: Belinda Hopwood, Lecturer in the Faculty of Education

Co-Investigator: Peter Brett, Lecturer in Humanities and Social Sciences

Student Investigator: Caitlin Kennedy

This study is being conducted in partial fulfilment of an Honours degree for the student researcher, Caitlin Kennedy, under the supervision of Belinda Hopwood and Peter Brett.

What is the purpose of this study?

The aim of this study is to investigate the practices that Tasmanian Year 4 teachers are using to teach spelling. In particular, four types of spelling knowledge that can be taught within spelling lessons will be explored. These include phonological (how words sound), visual (how words look), morphemic (how words change form) and etymological (where words come from) knowledge. Limited research literature exists within the area of spelling education in the middle primary years; therefore data gained from this study will be able to contribute to literature aiming to help provide teachers with ideas for effective spelling instruction.

What does the study involve?

Upon your consent, teachers within your school that meet the participant selection criteria will be emailed an invitation by the researchers to participate in the study. The first teacher to provide an agreement to participate will be selected as a participant in the study.

The study involves two phases. Phase one of the study will involve the researcher visiting the teacher's classroom and observing their spelling lesson. Phase two will involve the teacher participating in a one-on-one interview with the researcher. This interview will enable the researcher to gain further insight into the teaching practices used in the classroom, their knowledge and experience teaching spelling, as well as an exploration of the teacher's beliefs and reasons behind their pedagogical practices.

There are no foreseeable risks with this study. All participants' names will be removed from the data and replaced by pseudonyms. However, although every effort will be made to ensure anonymity, it is important to note that due to the small sample size, some data (i.e., teacher or school) may be re-identifiable. At the conclusion of the research, you will be provided with a report on the findings.



Principal Information Sheet [version 2] [21/05/2014]

If you agree to consent to this research to be conducted in your school, please complete the attached consent form and forward to the research team at the contact details below. If you have any questions about this study, please feel free to contact the research team.

Kind regards,

Caitlin Kennedy

Belinda Hopwood

Peter Brett

Telephone: 6226 7679

Email: cek0@postoffice.utas.edu.au

Email: Belinda.Hopwood@utas.edu.au

Email: Peter.Brett@utas.edu.au

Contact details for the Ethics Committee:

"This study has been approved by the Tasmanian Social Sciences Human Research Ethics Committee. If you have concerns or complaints about the conduct of this study, please contact the Executive Officer of the HREC (Tasmania) Network on (03) 6226 7479 or email human.ethics@utas.edu.au. The Executive Officer is the person nominated to receive complaints from research participants. Please quote ethics reference number [H0014078]."



Principal Information Sheet [version 2] [21/05/2014]

Learning to Spell: An Examination of Year 4 Teachers' Beliefs, Knowledge and Practices for the Teaching of Spelling

Consent form for school principals.

1. I agree to allow a teacher from my school to take part in the research study named above.
2. I have read and understood the Information Sheet for this study.
3. The nature and possible effects of the study have been explained to me.
4. I understand that the study involves allowing the researcher to observe a spelling lesson in a teacher's classroom, and to participate in a one-on-one interview for approximately one hour with this teacher, which will be voice-recorded and transcribed. I also understand that no data on children will be collected.
5. I understand that participation involves no foreseeable risks.
6. Any questions that I have asked have been answered to my satisfaction.
7. I understand that the researchers will make every effort to protect the teacher and school's anonymity, however I am aware that due to the small sample size in this research it is possible that it may be possible to be identifiable and that any information the teachers supply to the researchers will be used only for the purposes of the research.
8. I understand that the results of the study will be published and that while efforts will be made to protect the teacher and school's anonymity, it is possible that they may be identifiable.

Principal's name: _____

Principal's signature: _____

Date: _____

Please provide the email addresses of teachers in your school that meet the following participant selection criteria:

1. Currently teaching Year 4
2. Currently teaching Year 4 English/Literacy on a regular basis
3. At least three years of primary school teaching experience

Appendix D

Information Sheet for Participants



Participant Information Sheet [version 2] [21/05/2014]

Learning to Spell: An Examination of Year 4 Teachers' Beliefs, Knowledge and Practices for the Teaching of Spelling

Information for Participants

1. Invitation

I would like to invite you to be involved in the research project "Learning to Spell: An Examination of Year 4 Teachers' Beliefs, Knowledge and Practices for the Teaching of Spelling". This project will be exploring the pedagogical practices Year 4 teachers use to teach spelling, and how their own beliefs and knowledge influence their choice of pedagogy. The project will be conducted by the following team:

Chief Investigator: Belinda Hopwood, Lecturer in the Faculty of Education
Co-Investigator: Peter Brett, Lecturer in Humanities and Social Sciences
Student Investigator: Caitlin Kennedy

This study is being conducted in partial fulfilment of an Honours degree for the student researcher, Caitlin Kennedy, under the supervision of Belinda Hopwood and Peter Brett.

2. What is the purpose of this study?

The aim of this study is to investigate the practices that Tasmanian Year 4 teachers are using to teach spelling. In particular, four types of spelling knowledge that can be taught within spelling lessons will be explored. These include phonological (how words sound), visual (how words look), morphemic (how words change form) and etymological (where words come from) knowledge. Limited research literature exists within the area of spelling education in the middle primary years; therefore data gained from this study will be able to contribute to literature aiming to help provide teachers with ideas for effective spelling instruction.

3. Why have I been invited to participate?

You have been invited to participate in this study as a current Year 4 teacher at a local Catholic primary school, identified through contact with the principal of your school.

Please be assured that your involvement in this study is voluntary, and there are no consequences if you decide not to participate.

4. What will I be asked to do?

In the first phase of the study, you will be asked to invite the researcher into your classroom to observe a spelling lesson. The researcher will be recording details such as the type of activities that are implemented, the role of the teacher in the lesson and how students are assessed. The researcher will observe the lesson without obtruding on the work of the students or teachers.

In the second phase, you will be asked to participate in a one-on-one interview with the researcher. This interview will be audio-recorded and transcribed, which you will have the opportunity to review. It may take place in a venue that is convenient for you, such as your



Participant Information Sheet [version 2] [21/05/2014]

classroom, and is expected to take approximately one hour. The interview will involve discussing observations made during the spelling lesson, in order to gain further insight into your practices used, your beliefs and reasons behind your pedagogical practices, and your knowledge and experiences in teaching different types of word knowledge. The researcher welcomes the opportunity to view lesson plans relating to the teaching of the four types of spelling knowledge.

5. Are there any possible benefits from participation in this study?

Through participation in this study you will receive access to the findings, which will provide examples of pedagogical practices that Year 4 teachers are using to teach spelling, in particular, those that develop students' understanding of the four types of spelling knowledge. These findings will be mailed to you by the researcher upon request.

These findings will benefit the wider community as the teaching practices identified can be shared with primary school teachers with the intention of improving personal professional practice. In addition, the findings will contribute to theory regarding pedagogical practices for teaching spelling in the middle primary years. A report on the findings from this research will also be provided to the CBE.

6. Are there any possible risks from participation in this study?

There are no foreseeable risks with this study.

7. What if I change my mind during or after the study?

You are free to withdraw from the study at any time prior to August 1, 2014 and you may do so without providing an explanation. If you choose to withdraw from this study, I will ask your permission to retain any data that has been collected so far. You are free to decline this request. Data that has already been processed will not be able to be withdrawn.

8. What will happen to the information when this study is over?

All efforts will be made to ensure data collected from this research remains confidential, with all participants' names removed and identifiable only through pseudonyms. However, it is important to realise that due to the small sample size, some data may be re-identifiable.

Research data will be filed securely at the University of Tasmania for 5 years from the date of completion of the study. All files will be securely destroyed following this timeframe. Electronic data will be deleted from computer hard-drives and servers, and electronic "rubbish bins", and paper documents will be securely shredded.

9. How will the results of the study be published?

This study forms part of the requirements for an Honours degree, therefore findings will be presented at a number of forums for educational research. Any participant who would like to learn of the results of the study can contact Caitlin Kennedy for copies of any reports. The CBE, the participating teachers and the school principals will be provided with a report on the findings from this research.

10. What if I have questions about this study?

If you have any questions about this study, you may contact the following people:



Participant Information Sheet [version 2] [21/05/2014]

Belinda Hopwood

Telephone: 6226 7679

Email: Belinda.Hopwood@utas.edu.au

Peter Brett

Email: Peter.Brett@utas.edu.au

Caitlin Kennedy

Email: cek0@postoffice.utas.edu.au

Contact details for the Ethics Committee:

"This study has been approved by the Tasmanian Social Sciences Human Research Ethics Committee. If you have concerns or complaints about the conduct of this study, please contact the Executive Officer of the HREC (Tasmania) Network on (03) 6226 7479 or email human.ethics@utas.edu.au. The Executive Officer is the person nominated to receive complaints from research participants. Please quote ethics reference number [H0014078]."

This information sheet is for you to keep. If you consent to participating in this study, please contact the researchers through the contact details provided above. You will be required to sign a written consent form following indication of your desire to participate.

Appendix E

Consent Form for Participants



Participant Consent Form [version 2] [21/05/2014]

Learning to Spell: An Examination of Year 4 Teachers' Beliefs, Knowledge and Practices for the Teaching of Spelling

Consent form for participants of the study.

1. I agree to take part in the research study named above.
2. I have read and understood the Information Sheet for this study.
3. The nature and possible effects of the study have been explained to me.
4. I understand that the study involves allowing the researcher to observe a spelling lesson in my classroom, and participating in a one-on-one interview for approximately one hour with the researcher, which will be voice-recorded and transcribed. I understand that I will have the opportunity to review the interview transcript.
5. I understand that participation involves no foreseeable risks.
6. I understand that all research data will be securely stored on the [University of Tasmania](#) premises for five years from the publication of the study results, and will then be destroyed. I understand that my data will not be archived.
7. Any questions that I have asked have been answered to my satisfaction.
8. I understand that the researchers will make every effort to protect my anonymity, however I am aware that due to the small sample size in this research it is possible that I may be re-identified and that any information I supply to the researchers will be used only for the purposes of the research.
9. I understand that the results of the study will be published and that while efforts will be made to protect my anonymity, it is possible that I may be identifiable due to the small sample size.
10. I understand that my participation is voluntary and that I may withdraw at any time without any effect.

If I so wish, I may request that any unprocessed data I have supplied be withdrawn from the research. I understand that withdrawal of data must be requested prior to August 1, 2014.

Participant's name: _____

Participant's signature: _____

Date: _____



Participant Consent Form [version 2] [21/05/2014]

Statement by Investigator

☐

I have explained the project and the implications of participation in it to this volunteer and I believe that the consent is informed and that he/she understands the implications of participation.

If the Investigator has not had an opportunity to talk to participants prior to them participating, the following must be ticked.

☐

The participant has received the Information Sheet where my details have been provided so participants have had the opportunity to contact me prior to consenting to participate in this project.

Investigator's name: _____

Investigator's signature: _____

Date: _____

Appendix F

Observation Schedule

Lesson focus	
Description of activities	
How are the tasks presented?	
How are students grouped?	
Role of the teacher	
Role of the students	
What resources are used?	
How are students assessed?	
Other notes	

Appendix G

Interview Schedule

- 1.** How long have you been teaching for?
- 2.** How long have you taught Year 4 for?
- 3.** How do you teach spelling in your classroom and why do you choose to teach it this way?
- 4.** What do you think are the benefits of the practices you use in the classroom?
- 5.** What barriers do you see Year 4 students face when they learn about spelling?
- 6.** How do you help students overcome these barriers in your classroom?
- 7.** Describe how you teach “how words sound” within your spelling lessons.

For example, how do you help students understand things such as syllables?

- 8.** Describe how you teach the use of visual knowledge within your spelling lessons.

For example, teaching the letter-sound relationship between phonemes and graphemes.

- 9.** Describe how you teach linguistic features in your classroom, such as “how words change form”.

For example, teaching the addition of suffixes and prefixes.

- 10.** Describe how you teach word origins or “where words come from” within your spelling lessons.

- 11.** What challenges do you face as an English teacher in Year 4?

- 12.** How do you feel your spelling program could be improved?

- 13.** Do you use iPads for spelling? If so, what do you use them for?