UNIVERSITY OF NEW ENGLAND

DEVELOPING STUDENTS' KNOWLEDGE ABOUT LANGUAGE IN THE EARLY YEARS: A GAMES-BASED PEDAGOGICAL APPROACH

A Dissertation submitted by

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Abstract

A games-based pedagogical approach to developing students' knowledge about language in the early years of primary schooling is the focus of this study. New perspectives about the potential for teaching and learning about grammar to support students' development as expert users of language have emerged in recent literature and these studies have offered insights into how educators might unlock this potential in their classrooms. Recognising the potential of knowledge about grammar to support language and literature development has been aligned with the use in the classroom of a more functionally-oriented pedagogical grammar, one derived from M.A.K Halliday's systemic functional linguistics.

Recent curriculum changes in Anglophone countries, including Australia, have foregrounded explicit functionally-oriented grammar instruction. To enact this aspect of the curriculum effectively, teachers, particularly those working with very young students, need more knowledge about grammar and more pedagogical 'know-how'. To contribute to building this 'know-how', the study presented in this thesis explores the use of games-based pedagogy to teach young students about grammar. Specifically, the affordances of dialogic pedagogy, metalinguistic understanding and multimodality were applied to the design of grammar games to teach Year 1 students about clause structure and the functional parts of the clause. In this single embedded case study, the students were video-recorded as they played the games. This enabled an analysis of the students' use of multiple semiotic resources, including gestural and dialogic interaction, colour and movement, to reveal the complex interplay between interactive mediating tools and interactions in games purposefully designed to support these young students learning about grammar.

The study findings suggest that the type of student dialogic interaction that supports learning can emerge when students are engaged in games-based learning activities. Moreover, this kind of student dialogic interaction, scaffolded by multiple semiotic resources, can support young students' gradual development of knowledge about language and their developing metalinguistic understanding. A refined framework for how the young students in this study appeared to develop their metalinguistic understanding is proposed. The thesis suggests that further research into the possibilities afforded by a games-based approach to developing students' knowledge about language is warranted.

Certification of Dissertation

I certify that the ideas, experimental work, results, analyses, software and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.

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Signature of Candidate

10-03-2020

Date

ENDORSEMENT

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Signature of Supervisor/s

10 March 2020

Date

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Chapter 1 Introduction

Words like *ease* and *enjoyment* are not usually used to describe the experience of a six year old learning about grammar at school. Yet, these words do come to mind in this excerpt from an interview with Douglas, a Year 1 student who seemingly effortlessly deconstructs a clause from a picture book. This interview took place following a three-week teaching and learning sequence designed to begin building key understandings about sentence structure, starting with the parts of the clause. During the interview, after a brief orientation to a picture book, *Where the Wild Things Are* (Maurice Sendak), Douglas was presented with a sentence from the text and asked some questions by his teacher.

T: *That very night in Max's room a forest grew*. *Can you tell me, what's happening in that sentence? What's the action?*
D: A forest is growing.
T: *Is there a who or a what in this sentence? Something that's involved in the growing?*
D: Uh, yeah. Trees!
T: *Yes trees. And what words in the sentence tell you that?*
D: A forest.
T: *A forest. Good. And is there any extra information that tells you when, or where, or how, or maybe why?*
D: Yeah.
T: *What extra information is there?*
D: Where, is in Max's room. When, is that very night.

This transcript is taken from a recording which reveals the confidence, ease and enjoyment heard in the voice of this child as he answers the questions posed to him, without any need to take pause. Such evidence - Douglas' evident understanding of the parts of the clause and the meanings they make - adds to a contemporary body of literature that is challenging long held assumptions about the capacity of young children to grapple with abstract grammatical understandings, and highlights the value of taking the time to teach young children these concepts.

Ways that young students can be supported to develop their knowledge about language and grammar were explored in the study reported in this thesis. This was achieved through the implementation of a teaching innovation that adopted a games-based approach to learning. The approach harnessed multiple meaning making resources that worked in concert to provide a high level of support for students as they developed their knowledge about language.

Recent curriculum changes in Anglophone countries, including Australia, have promoted explicit functionally-oriented grammar instruction, as early as in the first few years of formal schooling. To enact this aspect of the curriculum effectively, teachers, particularly those working with very young students, need more knowledge about grammar and more pedagogical *know-how*. To contribute to building this *know-how*, the study presented in this thesis explores the use of a games-based pedagogy and the extent to which it can support young students to engage with, experiment with and master abstract concepts such as clause structure and the functions of clause parts. In doing so, this thesis begins to address a fundamental gap in the research literature; that is, how pedagogic tools such as dialogic interaction, multimodality and a shared metalanguage can be harnessed through games to work together in concert and provide students with a powerful learning scaffold within which complex understandings can develop. Following an analysis of video footage of students learning about grammar through games captured in a shared social learning space, a framework for how these students appeared to develop important metalinguistic understandings is proposed. Finally, this thesis demonstrates that learning about grammar, as it turns out, can be a lot of fun.

This chapter begins with brief description of the genesis of the study and why now, more than ever, this kind of research is important. Following this, the aims of the study are outlined, and the research questions are listed. Lastly, this chapter will preview the remaining chapters of this thesis.

1.1 Background and justification

The educational value of students learning about language and grammar is finally becoming more widely recognised. This follows a lengthy history of uncertainty about whether teaching grammar leads to any improvement in students' language use, particularly their written expression. What Myhill (2018b) describes as the "chequered history" of

explicit grammar instruction in Anglophone countries has been well-documented by others (Christie, 2010; French, 2013; Hudson & Walmsley, 2005; Kolln & Hancock, 2005; Myhill & Watson, 2014). Over the last 30 years, as new perspectives on the potential for learning about grammar to support students in becoming more expert users of language have emerged, so too has a body of research devoted to understanding how educators can harness this potential in their classrooms. However, this research has not yet equipped teachers, particularly those working with very young students, with enough evidence-based pedagogical *know how* they can apply the classroom. There are still many aspects relating to precisely how students learn about, talk about and develop complex and abstract grammatical understandings that are yet to be addressed.

Curriculum changes in Anglophone countries, including Australia, have supported what is being referred to as a "rebirth of grammar" (Hudson & Walmsley, 2005); however, an evidence-based approach for enacting this aspect of the curriculum is still developing. In Australia, where this study took place, teachers are expected to teach explicitly the grammar as set out in the Australian Curriculum: English, or in state-based equivalents, with little guidance about how to do so in an effective, engaging and contextually appropriate manner. The study reported here was designed to explore the potential of a games-based, pedagogical approach for developing students' knowledge about language in the early years of school.

The study has its origin in a partnership between the school where I was employed in my first year of primary school teaching and university academics. As a newly graduated teacher, I had been fortunate enough to secure a full-time position teaching a Year 1 class. Nevertheless, it was an uncertain climate in which to begin a teaching career. My whole undergraduate degree had centred around syllabus documents that were about to become obsolete with the introduction of a new Australian curriculum. A cohort of graduate teachers caught in this transition, myself included, were about to enter the classroom feeling under-prepared to teach as yet unseen curriculum content. When the school term started, I learned with relief that our school had secured a partnership with academics from the University of Wollongong, Emeritus Professor Beverly Derewianka and Associate Professor Pauline Jones, who would be supporting teaching staff to develop understanding of the Knowledge about Language strand of the new national English curriculum.

Later in the year, a classroom-based research project was conducted to explore how teachers would go about implementing the grammar requirements of the new Australian

Curriculum: English. In particular, the project involved working with teachers to explore how our understanding of the grammar in the new curriculum could be translated into engaging and effective classroom practice. A team of teachers worked collaboratively with the academics to design units of learning that integrated content from the Knowledge about Language strand of the new curriculum into our teaching and learning cycle. When we implemented these units of work in our classrooms, our teaching was filmed to create exemplar vignettes for use in teacher education. Further reading on the findings of this project can be found in Jones (2014) and Jones and Chen (2012).

The games-based teaching innovation at the centre of this thesis was conceived during my participation in the project mentioned above. High levels of student participation and engagement are widely recognised as being vital for successful learning in the classroom (Dufficy, 2005; Martin, 2007; McInerney & McInerney, 2006). I observed this to be the case when I gave my students opportunities to play games in order to learn content that required repetition or multiple encounters for mastery, including content such as sight words, letter-sound relationships, number facts or counting sequences. I applied this same play-based approach to teaching grammar content. These games needed to be carefully structured to enable a cumulative trajectory of understanding about clause structure and the functions of parts of the clause. The games also needed to contain multiple supports so they could be played with independence, and promote engagement, play and collaborative learning within a shared social space. It became apparent while observing students playing the games, that the games were providing them with a valuable learning scaffold that was allowing them to engage meaningfully with abstract grammatical understandings. In the years of teaching Year 1 students that followed, I had the opportunity to refine the use of these games in the classroom.

While it was clear that children enjoyed and gained knowledge about language from playing these games, I wanted to understand more about how the interactions that were occurring while students played these games were supporting them to engage with complex grammar content and to develop their knowledge about language. While classroom observations demonstrated the potential for powerful learning through this approach, this thesis will explore why this learning was occurring in this context, and in doing so, contribute to a growing body of literature that is providing teachers with a growing pedagogical repertoire for teaching about grammar.

As students progress through the primary school years, their development as meaning makers, and their educational success, depends on them being able to engage meaningfully with texts at each level of language: word level, clause level and whole text level (Macken-Horarik, Unsworth, & Love, 2011). Worryingly, or perhaps distressingly, both national and international assessments of Australian students' educational success demonstrate that their literacy achievement is in decline. Most recently, the 2018 Programme for International Student Assessment (PISA) report revealed the reading ability of fifteen-year-old Australian students has been in steady decline since the year 2000 (Organisation for Economic Co-operation and Development (OECD), 2019). Similarly, the 2018 Australian National Assessment Program – Literacy and Numeracy (NAPLAN) results showed that while 94.4% of Year 3 students met national minimum standards in writing, this number fell to only 79.5% for Year 9 students (Australian Curriculum Assessment and Reporting Authority (ACARA), 2019). These results suggest that, as Australian students progress through school, many are failing to become successful meaning makers. While this thesis does not consider why this might be the case, it does aim to contribute to what we know about how young children can be supported to learn about language form and function in order to become more sophisticated meaning makers as they engage with and create texts.

1.2 Research aims

The aims of the study are:

- to explore the use of a games-based pedagogy for developing students' knowledge about language and grammar in the early years of primary school (Cochrane, Reece, Ahearn, & Jones, 2013);
- to extend understanding of how games may be used as pedagogical tools to support young students' engagement with challenging and abstract concepts such as grammar;
- to contribute to the ongoing development of theory and practice regarding the effective teaching and learning of a meaning-based grammar in primary schools.

Achieving these aims has the potential to support teachers striving to teach knowledge about language, and especially, grammar in response to new curriculum demands in Australia and other Anglophone countries. These aims are the basis of the research questions the study is designed to answer.

1.3 Research questions

RQ 1: What kind of dialogic interaction emerges through a games-based approach to developing students' knowledge about language?

RQ 2: How do the multiple semiotic resources of a games-based approach contribute to students' developing knowledge about language?

RQ 3: How can students' metalinguistic understanding be developed through a games-based approach to learning?

1.4 Thesis overview

This thesis comprises seven chapters. This introductory chapter has outlined the context from where this study has emerged and the contribution it seeks to make. Chapter 2 is a review of the literature relating to the teaching of grammar in school. It reviews historical literature and curriculum change, followed by an appraisal of emerging research in the field. An overview of the theoretical framework applied to the design of this study is provided. Chapter 3 is an explanation of the methodology and research design. It includes a discussion about the appropriateness of qualitative methods for collecting language-based data and details the single embedded case study design of this research. Additionally, this chapter describes the process used to select *slices* of data for analysis from a large data set. Chapter 4 provides details about the games-based teaching intervention that forms the basis of this study. It includes a description of each of the grammar games as well as their place within the structure of literacy teaching in the classroom. In Chapter 5, *slices* of data obtained during this study are analysed using a multi-analytic tool. Transcribed audio is analysed using Alexander's (2017) model of Dialogic Teaching and captured still frames from the video footage are annotated to illustrate the range of multimodal resources used by students to support their learning. A framework for how students in this study develop their metalinguistic understanding is proposed. Chapter 6 presents a discussion of the study findings and answers to the research questions. Chapter 7 concludes this thesis and includes a discussion of the implications of this study for teachers as well as the potential for future directions of this type of research.

Chapter 2 A review of research into grammar instruction in schools

2.1 Introduction

This chapter reviews the research relating to the teaching of grammar to school students. It begins with a brief overview of some of the key historical developments in grammar-based research and contends that failings of the research from this era necessitate further exploration into the value of teaching grammar to school students. This chapter then connects these historical developments, along with new ways of thinking about how students develop their knowledge about language at school that have emerged since, to the fluctuating nature of Australian and state-based English syllabus documents over time. A case is made that the shifting nature of grammatical models, paired with curriculum instability may have created a dual challenge for teachers to enact current curriculum content pertaining to the teaching of grammar: first, the absence of a systematic approach to providing teachers with appropriate pedagogical support; and, second, teachers' own lack of grammatical content knowledge due to having progressed through their own schooling in a time when grammar was not being taught, or not being taught well. The existence of these challenges further supports the need for the research that forms the basis of this thesis.

An appraisal of the emerging, contemporary body of research into grammar instruction in schools follows later in this chapter. Research studies are grouped according to key pedagogical themes; an approach that seemed logical since an exploration of effective and engaging pedagogy forms the crux of this research. Key pedagogical themes identified include: the *development of metalinguistic understanding and use of grammatical metalanguage* and *dialogic pedagogy* (*Section 2.4.2*). These themes form the foundation of pedagogical components used by the games-based approach to teaching grammar in this study. Although the use of multimodality as a semiotic resource is a pedagogic feature of the games, the bulk of the research relating to the use of multimodality as a learning tool in the classroom relates to curriculum areas other than English, for example, science. It is outside the scope of this Masters' level thesis to attempt to review the research in this field, however, the use of multimodality as theoretical lens through which to view the games' design will be discussed in *Section 2.5.*

This chapter will then outline the theoretical framework (*Section 2.5)* underpinning the design of the games-based grammar intervention that forms the basis of this research study. These theoretical perspectives include: a functional description of grammar (Halliday & Matthiessen, 2004) which informs the grammatical content taught through the games; the work of L.S. Vygotsky (1978, 1987) which informs the social constructivist nature of the games-based pedagogical approach; Robin Alexander's (2017) model of dialogic teaching which will guide the analysis of student and teacher dialogic interactions captured during data collection; and multimodality as a semiotic resource, which informs some of the design elements of the games as well as the data analysis phase of this research.

Lastly, this chapter will make the case that while we know a little about how a range of pedagogical approaches may assist grammatical instruction, there is much still to be uncovered about how they can be used more effectively to support students in developing complex grammatical understandings. Moreover, this chapter will argue the need for further research into understanding how these pedagogical approaches could be harnessed and used in concert to support young students as they grapple with developing their understanding of the abstract nature of language and how it functions as a meaning making resource. The implementation of a games-based pedagogical approach in this research study is one example of an orchestration of metalinguistic, dialogic and multimodal resources, combined with a functional approach to describing language, for the purposes of developing students' knowledge about language in the early years of primary school. This approach will be proposed as a way of narrowing the divide between curriculum expectations for teachers and the availability of pedagogical resources that support the teaching of grammar to young students at school; a gap in the literature that will be demonstrated in this chapter.

2.2 A brief historical overview

Debates surrounding the value of grammar instruction as a tool for supporting improved competence of students' language use in schools, both in Australia and in other Anglophone countries abroad, have spanned more than five decades. These debates often hinged on a research base that purported to show evidence that explicit teaching of grammar in schools was neither necessary nor desirable. However, this evidence is marred because of failures to consider whether learning interventions were appropriately contextualised, the role of effective pedagogy (or lack thereof) in the success of grammar interventions, and whether

methodological choices in the research were appropriate. Significantly, a further variable rarely considered is the impact on learning outcomes of the type of grammar being taught (Derewianka & Jones, 2010). The following is a brief discussion of selected research publications that are considered to have influenced public and political perceptions of the inherent value of grammar instruction in schools and contributed to what had been termed the "death of grammar teaching" in most English speaking countries (Hudson & Walmsley, 2005, p. 593).

The publication of 'The Braddock Report' (Braddock, Lloyd-Jones, & Schoer, 1963) in the United States was a significant development in the case made against grammar; this publication formed the basis of popular and academic opinion about the teaching of grammar for some time to come. It stated:

> In view of the widespread agreement of research studies based upon many types of students and teachers, the conclusion can be stated in strong and unqualified terms: the teaching of formal grammar has a negligible or, because it usually displaces some instruction and practice in actual composition, even a harmful effect on the improvement of writing (Braddock et al., 1963, pp. 37-38).

This influential report led to a widespread perception that grammar teaching was not only irrelevant, but also a potentially harmful practice. However, as French (2013) outlines in her discussion of The Braddock Report, while there was no shortage of commentary decrying the review's flaws and inconsistencies in the years following its release, these critics did not enjoy the same high profile as the report authors and their views were not enough to effectively challenge Braddock's conclusions (pp. 16-17).

Following The Braddock Report, Elley, Barham, Lamb and Wyllie (1976) conducted a three-year longitudinal study in New Zealand on the role of grammar instruction in secondary school English curriculum documents. Agreeing with other commentary at the time that previous research in the field was flawed, Elley et al. designed a further study to "avoid the main deficiencies of the previous research on the subject" (p. 7). The purpose of this study was to determine the effects of grammar study on the language growth and writing competence of secondary school pupils. This significantly more robust research involving a sample of 250 secondary-aged students of average ability demonstrated that the effects of such grammar study were negligible with no differences in writing performance between the control and intervention groups after two years, and after three years, only small differences

appeared in some minor writing conventions (Elley et al., 1976). Following on so soon from the publication of The Braddock Report, this study added weight to the argument against grammar instruction in schools, an argument likely being followed closely by those in educational research, the teaching profession and positions of political influence on curriculum.

Even though the Elley et al. (1976) study attempted to rectify previously flawed research, it too was problematic. The lack of consideration for the nature of the pedagogy relating to grammar instruction is one aspect of this research that is particularly troubling, and makes it difficult for the authors to claim that the grammatical knowledge itself had little effect on student writing outcomes. The study sought to compare three treatment groups: a transformational grammar course; a reading-writing (non-grammar) course; and a course typical of New Zealand secondary English teaching at the time. The pedagogical approach to the delivery of each of these treatment groups was not considered and is a significant limitation of the study. It could be argued that either the type of grammar description or the pedagogy used, or both these variables, could be responsible for the finding of "negligible" improvement in student achievement. Additionally, the grammar instruction that formed part of this study was not contextualised to other elements of the English curriculum but was taught as a discrete content area. It is possible that this apparent fault in the research design is likely to be reflective of the pedagogy of the era. While there seemed to be an expectation at the time that grammar instruction should lead to improvements in language use, for example, writing achievement, grammar and writing were usually treated in isolation from each other. It seems unlikely that, with no prior teaching and practice, students would be able to connect their isolated grammar instruction with writing in other disciplines and to apply this knowledge to make informed writing decisions.

A failure to consider neither the importance of pedagogy and context in grammar instruction, nor the nature of the grammar being explicitly taught, continued to be a feature of subsequent reviews of grammar instruction over the next few decades. Typical of many studies at the time, researchers were often concerned with improving student writing outcomes, and the study of the relationship between grammar and writing achievement seemed to feature frequently. A meta-analysis of research into writing instruction by Hillocks (1986) provides an evaluation of six instructional areas related to teaching writing composition: grammar; models; sentence combining; assessment scales based on success

criteria; inquiry and free writing. When discussing the results of the study in a subsequent publication, Hillocks (1987) writes:

> The study of traditional school grammar (i.e. the definition of parts of speech, the parsing of sentences, etc.) has no effect on raising the quality of student writing. Every other focus of instruction examined in this review is stronger.

Thus, this review, supporting the conclusions of preceding reviews relating to grammar instruction, further contributed to the negative perception surrounding the explicit teaching of grammar in schools.

Despite Hillocks (1986) referring specifically to heavily mechanical traditional grammar instruction being detrimental to writing outcomes, at no point does the report review more contextualised approaches to grammar instruction and the possibility that such approaches might lead to more positive writing outcomes for students. There was no attempt to understand why traditional grammar instruction was having little impact; and there was a noticeable lack of questioning about the type of grammar being taught, about the disconnect between grammar and meaning, nor about the quality of grammar instruction delivered. Instead, grammar instruction is denounced in no uncertain terms, by claiming: “we can no longer accept the teaching of grammar as being in anyway conducive to improving the quality of writing…” (Hillocks, 1987, p. 81)

In more recent times, research into grammar instruction has continued to be closely associated with writing. While writing performance is by no means a complete measure of a student’s successful mastery of language, it continued to be the preferred measure for evaluating the success of grammar instruction. In a meta-analysis of adolescent writing instruction with the aim of identifying effective instructional strategies, Graham & Perin (2007) reported on a range of teaching practices from summarising and peer assistance to prewriting activities and goal setting, including, notably, grammar instruction. Consulting studies from as far back as 1963, for example, the study by Thibodeau (1963) of the use of grammar exercises designed to improve writing composition, (Graham & Perin, 2007, p. 462) concluded that grammar instruction has a statistically significant negative weighted effect on writing composition outcomes across Grades 4-12. This was yet a further rejection of the potential for grammar instruction in schools to improve student outcomes.

The conclusions about grammar instruction and its negative effect on writing composition in Graham and Perin's (2007) review are problematic because the interpretation of the results lacks nuance. The review relies solely on the calculation of averaged weighted effect sizes of experimental or quasi-experimental studies; this means that any studies with a correlational, qualitative or single-subject design involving grammar instruction were not eligible for inclusion. Whilst this is an acknowledged limitation of meta-analyses in general, this limitation makes it difficult to assert valid conclusions in areas of study such as language, which is not suited to numerical analysis, the reasons for which will be further explained in the methodology of this thesis (Chapter 3*).* Graham and Perin (2007) selected studies for this review that relied on the reader's own judgement to give a score against aspects of writing quality such as ideation, organisation, vocabulary, sentence structure, and tone (p. 447), and these measures were used to calculate the weighted effect size. However, if the definitive purpose of teaching students about grammar is for them to become more competent users of language, whether this skill is assessed through written composition or otherwise, then it may be more effective to measure student success through qualitative means, with an emphasis on how students use language to make meaning, how effectively they make that meaning, and how they control their language choices, rather than through numerical scores that shed little light on the intellectual and meaning-making processes that went into producing a piece of written work. Understanding how grammar instruction may support students to become better writers requires the kind of deeper inspection of students' writing that could come from qualitative research designs, the same kind of research that was excluded from Graham and Perin's (2007) review, which called the usefulness of qualitative research into question. If grammar is a tool for thinking, then it follows that qualitative research providing insight into students' thinking about language and grammar should be considered in any evaluation of the effectiveness of grammar instruction.

Casting further doubt on the validity of the assertion that grammar instruction has a negative effect on writing composition put forward by Graham and Perin (2007) is the exclusion of Fearn and Farnan's (2005) study from the weighted effect analysis, a study deemed to be an outlier so not included in the meta-analysis. There were eleven studies relating to grammar and writing selected for inclusion in this meta-analysis. After calculating effect sizes for each intervention, and weighting them to account for the number of participants in each study, two studies had weighted effect sizes that were significantly different from the remaining nine: a negative effect size of -1.40 belonging to unpublished

doctoral research study and a positive effect size of 1.07 for Fearn and Farnan (2005). Both studies were removed from the group before an averaged weighted effect size was calculated so that the variability among the range of effect sizes of the other nine studies was sufficiently small enough that it could be attributed to sampling error.

The statistical processes that led to the exclusion of the Fearn and Farnan (2005) study are not necessarily being called into question. However, due to the significant positive weighted effect of this study and the fact that it was the only study to assess grammar instruction focusing on the function and practical applications of grammatical concepts within a writing context, in contrast to treating grammar in isolation, Graham & Perin (2007) should have given this study more consideration. Their review failed to question whether the lack of a contextualised approach to grammar may have accounted for the negative weighted effect in the other grammar related studies, nor did it comment in any meaningful way on the use of grammatical function over identification. Instead, there was a brief comment that Fearn and Farnan's (2005) approach "merits further investigation" (Graham & Perin, 2007, p. 466). The failings of this review further demonstrate why new research into the possibilities afforded by alternative approaches to teaching grammar should be considered, particularly those that address the contextualisation of grammar instruction and with a focus on the function of language be carried out.

Deficiencies in the research credited with the decline in grammar instruction in schools is not limited to a failure to consider instructional contexts or the nature of the grammar itself. Despite the existence of a strong body of research supporting understandings that teacher quality and pedagogical practice can be one of the most influential factors when considering student outcomes, these factors continue to be excluded from reviews of research related to explicit language instruction. For example, a systematic review of the effect of grammar teaching (syntax) on the written composition of 5 to 16 year old students (Andrews et al., 2004) takes a similarly narrow approach to assessing a causal relationship between instructional input and writing output, ignoring such factors as the degree of grammatical knowledge teachers possess, their attitudes towards teaching grammar, whether grammar instruction was appropriately contextualised for students or the range of teacher practices and pedagogical discourse. These factors should have been more than enough cause for questioning the claim that "the main implication of our findings is that there is no high quality evidence that the teaching of grammar, whether traditional or generative/transformational, is worth the time if the aim is the improvement of the quality and/or accuracy of written composition" (Andrews et al., 2004, p. 4).

Contrary to other reviews of grammar related research, the Andrews et al. (2004) report demonstrates through its discussion that it is at least open to the possibility that the study has limitations. The review suggests that teaching syntax "tends to ignore the levels of language immediately below and above the sentence; morphological structures in language below the level of the sentence; and paragraph and textual levels above the level of the sentence" (p. 5). Furthermore, the review suggests that while it has established what does not work, further research and evidence is needed to establish what does work. This suggestion, although a somewhat fleeting thought in the review's discussion, sets a direction for future work in this field.

Unsurprisingly, in response to the historic failings of research into the teaching of grammar to consider the role and nature of classroom pedagogy, the impact of contextualised approaches to teaching grammar, or the nature of the grammar being taught, there has been a shift in focus in studies appearing over the last decade (Alexander, 2012; Chen & Myhill, 2016; P. Jones, 2014; Klingelhofer & Schleppegrell, 2016; Myhill, Jones, & Wilson, 2016). These researchers have been exploring alternative approaches to teaching grammar within the context of shifting models of grammar and a landscape of curriculum change, both of which will be unpacked further in the next section of this chapter.

2.3 A shift towards a functional model of grammar and curriculum change

The realm of traditional grammar instruction dominated the literature responsible for shaping a broad perception that grammar instruction has no measurable benefits on student achievement, particularly writing achievement, as shown above. Andrews et al. (2004) describe traditional grammar as being "sentence grammars that tend to focus on the internal elements of the sentence, classifying 'parts of speech' and describing (and sometimes prescribing) the relationship between parts of speech" (p. iv). Traditional grammar instruction in schools over time appeared to lose concern for rhetorical purpose and text organisation and, according to Christie (2010), traditional grammar by the mid 20th century "…had degenerated to the rather arid pursuit of traditional 'parts of speech' and 'rules of syntax'" (p. 80). By the mid-1970s, the apparent deficiency in a traditional approach to grammar and

language instruction created a climate which gave rise to new ways of thinking about developing students' understandings about grammar and language. [1]

New approaches to language and grammar arrived initially in the form of *process-driven* models of teaching English, followed by genre theory (Christie, 2010), two divergent and at times competing views of literacy and language development in education. These changes in ideology resulted in notable fluctuations in the place that grammar instruction has held in English curriculum documents across Australia, as will be further outlined below. Although likely unintended, but nevertheless still significant, are the consequences arising from these curriculum changes. Arguably, many teachers who went to school during this time of flux may now lack the level of understanding about language and grammar required to teach it effectively. A serious issue in itself, this is compounded by the fact that continual changes in curriculum content dealing with grammar and language have hindered the development of professional support for teachers enacting this content, and impacted the development of a systematic, coherent and evidence-based range of pedagogical approaches to inform teaching practice. Whilst unpacking debates about competing approaches to teaching language and grammar is beyond the scope of this literature review, the following provides a brief outline of these developments and the implications for curriculum in Australia. For a more thorough discussion of this issue, see Christie (2010) or Richardson (1991).

Throughout the mid-1970s there was growing support for using a model of *growth* or *process* in classrooms. This model was not exclusive to the teaching of English, but instead was part of a broader trend towards curriculum change that foregrounded the individual learning journey of the child. This trend could be seen in publications relating to education at the time, such as the Plowden Report (1967), a comprehensive review of primary education in the United Kingdom at the time. This report included statements such as:

> Skills of reading and writing…can best be taught when the need for them is evident to children… There is, therefore, good reason for allowing young children to choose within a carefully prepared environment in which choices and interest are supported by their teachers, who will have in mind the potentialities for further learning (p.530).

[1] For extended discussion relating to traditional and meaning-based approaches to grammar instruction, see Derewianka (2003), Derewianka and Jones (2010), Jones and Chen (2012) and Locke (2010).

An increasingly popular extension of this model was the idea that students did not need to be taught systematically about language, but rather their knowledge could *grow* in the English classroom in the presence of a teacher or facilitator (Christie, 2010). The effects of the *growth* or *process* model of literacy, which was somewhat revived in the 1980s by the whole language movement (Richardson, 1991), can be seen in curriculum documents from the time. For example, in the state in which research for this thesis takes place, the Reading K-12 (NSW Department of Education 1978) and Writing K-12 (NSW Department of Education 1987), documents developed by the Department of Education and "based on a 'whole language' philosophy, were the de facto English curriculum in most primary classrooms in the 1980s" (Gibbs, 1998, p. 184). The lack of a systematic approach to language and grammar in these documents is indicative of the rise in popularity of the process model for teaching English, and likely also a reflection of the negative findings arising from research into the impacts of teaching about grammar on literacy development that were prevalent at the time.

By the mid-1980s, when there was considerable support for *process* models of English language learning, the theory of genre pedagogy emerged. Educators were finding that *whole language* approaches to reading and a *process model* of writing were not providing children from immigrant, working-class or Indigenous backgrounds with enough literacy support to make sufficient progress (Rose & Martin, 2012). Genre theorists emphasise the need to teach students explicitly how to make informed language choices when writing to achieve a purpose and with a specific audience in mind. This development of a functional model of language stemmed from the broader framework of Systemic Functional Linguistics (SFL) (Halliday, 1978). Halliday's emphasis on an appliable model of linguistics that valued function over form, and that was seemingly translatable into classrooms had developed a strong following within the academic community. The model was equally attractive to educators who were seeking more robust ways of thinking about language and literacy development. A key publication by Derewianka (1990); the 2nd edition of which has just been published (Derewianka, 2020); was to follow, which unpacked genre theory and its place in classrooms and endeavoured to close the ideological gap between functional linguists and whole language and process learning approaches. A movement back towards explicit teaching of grammar, albeit now from a functional or meaning-based perspective, had garnered sufficient support that when the NSW Board of Studies introduced a new primary

school English syllabus in 1994, it included a systematic and explicit approach to teaching knowledge about language, including the use of functional grammar terminology.

The inclusion of grammar in this form sparked a new and highly politicised debate and a review of this new syllabus was announced less than a year after its release in 1995, resulting in a recommendation being made that another new English syllabus should be developed that "supports the functional approach to language", while "replacing the functional grammar terminology with conventional terminology" (Eltis, 1995, p. 87). The document takes great care to denounce the use of functional grammar several times across the document as can be seen below.

> Acknowledging that there is, by and large, good support for the English K-6 syllabus, although not for Functional Grammar, the Review Panel recommends:
>
> R6: *that for the English K-6 Syllabus:*
>
> - the existing syllabus continue to be implemented in 1996 and 1997, with Functional Grammar no longer being mandatory
> - the Board of Studies review the use of "Functional Grammar" in English K-6 with a view to:
>   - supporting the functional approach to language that underpins the syllabus
>   - replacing the "Functional Grammar" terminology with conventional terminology
>   - developing a document to include sources for teachers relating to conventional grammar and its use in the classroom (Eltis, 1995, p. 87)

By 1998, the NSW Board of Studies had released a new English K-6 Syllabus with, as instructed by the Eltis (1995) review, a return to conventional grammar terminology. Also, as instructed by the review, the new syllabus document retained an approach to language and literacy that was underpinned by a meaning-based or functional approach. A notable feature of this syllabus were the two strands: "Learning to use language" and "Learning about language", the latter of which aimed to develop, among other things, "…a shared language for talking about language, and to use this knowledge to evaluate texts critically in terms of effectiveness, meaning and accuracy" and to allow for "exploring the grammatical patterns in texts to see how they build up the meaning" (Board of Studies, 1998, pp. 8-9). Further drawing on the functional approach to language and genre theory, this syllabus document

included a scope and sequence for developing students' understandings about and skills to create a range of literary and factual text types. A scope and sequence for teaching grammatical concepts and terminology (conventional) was also included in this document.

While there are different views on the place of pedagogy in syllabus materials, this syllabus contained little support for teachers in terms of how they might teach the grammatical requirements. The document provided only brief and general advice, including some generic statements such as "…students should be introduced to the meaning behind grammatical terms… accompanied by the teacher's use of grammatical terminology… with the students themselves ultimately using the terms" and "… ultimately an understanding of grammatical concepts and terms should be developed in context and not through decontextualised exercises" as well as "Grammar is not being learnt as an end in itself but as a means of improving students' ability to use language more effectively and to evaluate others' texts critically" (p. 73). Previously promised materials "providing 'information and assistance for teachers about grammar and how to teach it'" (Gibbs, 1998, p. 192) never appeared. Nor was there any large-scale investment in professional learning to support the implementation of yet another new English syllabus. Such programs might have addressed the issue of grammar pedagogy. Instead, teachers at this time, and largely, even now, were without evidence-based, effective or engaging pedagogical resources with which to teach grammar content.

Early in 2008, following a change of federal government in late 2007, a National Curriculum Board (replaced by the Australian Curriculum, Assessment and Reporting Authority (ACARA) in 2009) was established to advance the longstanding plan, dating back to the 1980s, of developing an Australian national curriculum (Brennan, 2011). Following the production of curriculum shaping papers and a lengthy consultation process, the resultant document - now the current curriculum document for the teaching of English in Australia - was the Australian Curriculum: English (Australian Curriculum Assessment and Reporting Authority (ACARA), 2020a) which was first implemented in selected Australian states and territories in 2011.

The most significant feature of this curriculum is its organisation around three interrelated strands; Language, Literature and Literacy; that support students' understanding of and use of English. The language strand of the Australian Curriculum: English brings together both language form and function so that students can learn about how language

enables effective interactions and how patterns of language across whole texts, sentences, groups of words and individual word levels contribute to making meaning for a particular audience and purpose. Additionally, the language strand of the curriculum develops a consistent language for talking about language "…so they can reflect on their own speaking and writing and discuss these productively with others" (Australian Curriculum Assessment and Reporting Authority (ACARA), 2020b). Using functional or meaning based grammatical terms such as *process* or *circumstance* as well as conventional grammatical terminology, this curriculum document is significant as it is the first of its kind in Australia to offer an integrated and contextualised approach to developing students' knowledge about language. Since a lack of contextualisation was identified earlier in this chapter as a failing of the previous research base, the inclusion of an integrated approach in this new curriculum document was a positive step forward.

In NSW, the Board of Studies, Teaching and Educational Standards (BOSTES) was the authority charged with the translation of the intended Australian Curriculum: English into a state-based syllabus document. Now overseen by the NSW Education Standards Authority (NESA) following a review of BOSTES in 2016, the NSW English K-10 syllabus was produced at the end of 2012 for implementation in NSW schools by 2014. While this document includes grammatical content as intended by the Australian Curriculum, its organisation and structure are significantly different, with a less integrated focus on language as a meaning-making resource. Notably, the functionally derived architecture of the national English curriculum was dismantled with the sub-strands of "language for expressing and developing ideas", "language for interaction" and "text structure and organisation" (representing field, tenor and mode respectively) unrecognisable in the NSW iteration.

However, a functional approach to developing students' knowledge about language is still present in the NSW syllabus, with "use language to shape and make meaning according to audience, purpose and context" featuring as one of five broad syllabus objectives. Within this objective, much of the grammar specific content from the Language strand of the Australian Curriculum: English is retained, including some of the functional terminology such as *processes* to label the function of verb groups, with a focus on how these grammatical features are used to convey a particular meaning. It is worth mentioning that support materials for the NSW English K-10 syllabus document include an "Overview of grammar and punctuation skills K–6" which serves as a scope and sequence for grammatical skill

development for students in primary school and is a return to conventional terminology with no reference to functional or meaning based terms; suggesting that there is still a quiet debate playing out about the place of a functional approach to language in the curriculum. Precisely why the idea of a functional approach to language was retained while the functional terminology that supports this approach was largely rejected is not immediately apparent to the broader educational community. In a paper outlining the rationale behind the Language strand of the Australian Curriculum:English, Derewianka (2012) provides a discussion of existing concerns about the use of a functional terminology, among which was the importance of ensuring that teachers would be able to recognise familiar terminology in the content descriptors. Whether this was a driving factor in rejection of the functional terminology in the NSW iteration of the curriculum, or whether there were other more political factors influencing the decision, is not known.

As the presence and form of grammar in Australian curriculum documents has been changing since as early as the 1980s, it follows that a significant proportion of teachers in the workforce would have attended an Australian school during this time of curriculum flux and may have experienced inconsistencies in their own learning about language and grammar. Additionally, the frequent changes in curriculum posed challenges for the development of a systematic approach to teacher professional development relating to the best pedagogical practices for enacting grammar related curriculum content. The less coherent organisational structure of the new NSW syllabus compounds a lack of targeted pedagogical support, particularly for teachers in NSW where this study takes place. This two-fold dilemma, where teachers have been the casualties of curriculum change and uncertainty for the better part of 30 years, provides strong grounds for research into pedagogies for teaching grammar, as forms the basis of this thesis.

Curriculum examples demonstrating a move towards a functional approach to developing students' knowledge about language are not only limited to an Australian context. The following brief summary of curriculum developments in England and the United States is provided by Chen and Myhill (2016):

> In England the National Curriculum for English (NC:E) re-introduced grammar in1988. Subsequent revisions (DfE, 1995, 1999) all included some reference to grammar, but the latest version (DfE, 2014) is the most explicit, specifying what grammatical knowledge must be

> mastered in each year of the primary curriculum. Similarly in the context of the United States, the inclusion of a Language strand in the new Common Core State Standards Initiative for English Language Arts and Literacy (CCSSI-ELA, 2012) reflects a renewed investment in explicit instruction of knowledge about language (p. 100).

Over the last twenty to thirty years, researchers and educators both in Australia and internationally have been exploring and implementing an approach to teaching language largely concerned with how language functions as a meaning-making resource. Australia has been forging ahead with the development of a "…contemporary model of language to inform teachers' literacy practices" (Derewianka, 2012, p. 129) as is evidenced by both our national and state based curriculum documents, and has led to an emergence of new imaginings and innovations on how conceptual understandings about language and grammar might be taught in schools. As this meaning-based grammar became more well-known, educational researchers began to take an interest in how this kind of framework for grammar could be beneficial for students in the classroom.

The following sections of this chapter will review the research relating to grammar instruction that has emerged following the above-mentioned shift towards a functional or meaning-based model of language in curriculums both in Australia and internationally. While these sections of the chapter have been organised by pedagogical themes, it is worth pointing out that studies using these pedagogies in the field of grammar instruction, frequently also adopt a functional or meaning-based approach to language. This is not due to any selection criteria applied by the researcher, but rather it is indicative of the changing nature of instructional approaches to teaching grammar in schools both in Australia and internationally.

2.4 Developing knowledge about, and for talking about, language

2.4.1 Adopting a functional approach to grammar instruction

Following the emergence of genre pedagogy and a functional approach to language, educational linguists turned their attention to the potential benefits of teaching students to use grammar purposefully as a meaning making tool. These researchers acknowledged the reservoirs of tacit grammatical knowledge that many students were bringing into the

classroom while also recognising the need to shift students' understanding towards explicit grammatical knowledge. Children bring with them to school, through their own encounters with oral and written texts, an implied or tacit understanding of grammatical rules or structures that they can employ. While there has been some question about the benefit to be gained in making tacit knowledge explicit when successful language in use is already occurring, exploring this is beyond the scope of this literature review. However, Myhill argues that "…explicit knowledge is, by definition, more cognitively accessible for reflection and decision-making, and may therefore be a powerful enabling tool for writers tackling the cognitively complex task of writing."(2005, p. 89).

With a view to developing students' explicit grammatical knowledge, initial research in the 1980s was conducted by academics from the Department of Linguistics at the University of Sydney. Their project, later dubbed the work of the Sydney School, began as action research within the Disadvantaged Schools Program (DSP) and developed into the *Writing Project* and *Language as Social Power Project* with the central principle "…that effective teaching involves providing learners with explicit knowledge about the language in which the curriculum is written and negotiated in the classroom" (Rose & Martin, 2012, p. 2). The research, based in NSW primary schools, began by exploring the kinds of texts (genres) that students were expected to produce and then developed a pedagogy designed to guide students towards textual control or mastery of these genres, using a functional model of grammar and developing a shared language with which students and teachers could communicate. This new approach to explicit literacy teaching achieved "…outstanding results not just for children from less advantaged backgrounds, but for primary school students in general (Rose & Martin, 2012, p. 4).

It is worth noting that while evidence collected through this action research project was widely accepted by the scholarly community at the time, detailed publications outlining the research methodology, data collection and analysis of student data are currently not easily accessible. This makes assessing the validity of the claims of this research challenging. However, evidence of the success of this approach was seen both in the adoption of this model into the NSW English Syllabus in 1994, as discussed above, as well as in further studies that built on the work of the Sydney School, as outlined below. For educational linguists conducting these kinds of studies, classroom-based action research or design-based research was considered preferable over experimental or large scale quantitatively oriented

studies due to the view that "…what children do linguistically under experimental conditions is very little guide to what they do naturally, and it is necessary to back up the vast amount of experimental psycholinguistic studies of children's language with…intensive observations…" Halliday (2007, p. 184). However, it is important to note that despite the misgivings of the Sydney School linguists as to the place of classroom language based experimental research, Myhill, Jones, Lines and Watson (2012) have demonstrated through their large scale randomised-control trial (see *Section 2.4.2-2.4.3*) the merits of this kind of approach.

As the work of the Sydney School became more well-known, further studies investigating the classroom potential of a functional approach to language emerged. The "Children's Development of Knowledge about Language" project, beginning in 1994 and led by Geoff Williams in collaboration with Joan Rothery and Ruth French, "sought to investigate the accessibility and effectiveness of aspects of functional grammar for primary school children" (French, 2010, p. 214). With a focus on teaching grammar in context using texts encountered in the classroom, this study, spanning more than five years, analysed a range of data sources, including transcript data and measures of written composition taken from five case studies of children in primary classrooms from year one to year six. The study concluded, among other things, that learning about grammar from a functional perspective was not only accessible to young students, but also afforded a great deal of utility in that students could use their knowledge and understanding about language to support their own language use in literacy related endeavours at school (French, 2010; Williams, 1999). Support for the use of a classroom friendly, functionally oriented grammar continued to develop with a view to making students conscious of language features and structures, developing a metalanguage that would allow teachers and students to talk about the language of texts and to help students understand how language positions readers and writers of texts (Kamler, 1995, p. 4).

Investigating the potential of using a functional approach to teaching and learning about grammar, derived from systemic functional linguistics, for developing students' knowledge about language and their use of a grammatical metalanguage has continued to be a feature of grammar related research both in Australia and internationally. Systemic Functional Linguistics has been a pivotal theoretical development in the field of literacy education because it offers "a functional grammar that connects language forms with

meaning" (Schleppegrell, 2013, p. 155) and provides a metalanguage for students and teachers to communicate their understandings of language and meaning to each other. The value for students of not only understanding how language can be deployed to make meaning, but also possessing a metalanguage they can use to discuss meaning making is reinforced by Unsworth (p. 331). The development of a grammatical metalanguage, a common language that can be used by educators to explain abstract grammatical concepts as well as by students to elaborate on and apply their understandings of these concepts, is a foundation of a functional approach to teaching and learning about grammar; it continues to be a prominent feature of more recent research into teaching grammar using a functional approach. The use of a functional grammar over traditional grammar is often, although not exclusively, paired with an instructional approach that builds students' knowledge of grammatical metalanguage, as will be outlined below. The development of a grammatical metalanguage is a key pedagogical component of this study and as such, the following section of this chapter highlights contemporary research in this area to make the case for why continued investigation is warranted.

2.4.2 Metalanguage and metalinguistic understanding

This section of the chapter will be used to review theories of metalinguistic understanding that are developing in contemporary grammar-based research. A discussion of emerging research follows an explication of how approaches to explicit grammar instruction are increasingly making use of metalanguage and building students' metalinguistic understanding as an instructional tool in the classroom.

2.4.2.1 Developing students' metalinguistic understanding

Metalinguistic theory has historically been established in the field of psychology, oral language development, bilingual learning and early writing development; see Chen and Myhill (2016), Myhill et al. (2016) and Myhill and Jones (2015) for a more detailed summary. Myhill and Jones (2015) maintain that although related to oral language development, Gombert's (1992) work on metalinguistic development remains seminal in the field. This work outlines five subdomains of metalinguistic development that include the following:

- metaphonological – developing understanding of the sounds that build words;

- metalexical – developing understanding of word structures and word meanings;
- metasyntactic – developing the ability to reason consciously about syntax and intentionally control it;
- metapragmatic – developing understanding of how to use language appropriately in social contexts; and
- metatextual – developing understanding of text structure including cohesion and coherence (Myhill & Jones, 2015, pp. 841-842).

These subdomains were summarised as word-, sentence- and text-level understandings by Myhill et al. (2012) in their analysis of students' metalinguistic understanding which is discussed in more detail later in this section of the chapter. The *metalexical* and *metasyntactic* subdomains of metalinguistic development relate closely to the kinds of understandings that it was planned students would develop through playing the games designed for this study. Through playing the games, students would learn about clause parts, their functions and how they can be controlled for the purposes of making meaning. Thus, these two subdomains of metalinguistic development are the focus of this section.

The use of the term *metalanguage* and the descriptive term *metalinguistic* is becoming a prominent feature of emerging grammar-based research, often with a range of loosely defined meanings. It is a linguistic curiosity, as Myhill (2011) points out, that the adjectival nature of the term *metalinguistic* requires the use of an accompanying noun, leading to a variety of terms that are closely related yet all implying something slightly different: metalinguistic awareness; metalinguistic knowledge; metalinguistic understanding; metalinguistic skill; metalinguistic activity (p. 249); metalinguistic reflection (Watson & Newman, 2017); metalinguistic description (French, 2013); metalinguistic talk; metalinguistic conversation; and metalinguistic decision-making (Myhill et al., 2016). Myhill and Jones (2015) argue that the slippage among each of these terms leads to researchers either using the terms interchangeably or using them to imply conceptual differences which are often unexplained. If metalinguistic understanding is confirmed as a fundamental component for supporting students in developing their knowledge about language, then a firm grasp on precisely what constitutes metalinguistic understanding and the trajectory of its development would be helpful. This study seeks to contribute to our knowledge of how students' metalinguistic understanding develops and how students make use of this resource

as they engage with abstract grammatical concepts, a gap in our understanding that will be demonstrated as the literature is reviewed in this section of the chapter.

While it is outside the scope of this study to explore the origins of metalinguistic theory, it is, however, pertinent to explore the ways in which researchers and educators are going about deciphering what *metalinguistic development* and *metalinguistic understanding* mean in an education setting, particularly in the context of developing students' knowledge about language in the classroom. A widely referred to theorisation of metalinguistics that supports this endeavour is Myhill's (2011) definition:

> … metalinguistic activity is the explicit bringing into consciousness of an attention to language as an artifact, and the conscious monitoring and manipulation of language to create desired meanings grounded in socially shared understandings (p. 250).

Other attempts to unpack metalinguistics in the context of grammar instruction include "to develop metalinguistic understanding means to be able to think grammatically about language choices in writing" (Chen & Myhill, 2016, p. 101). The notion of "conscious monitoring and manipulation of language to create desired meanings" as Myhill (2011) suggests, is a critical idea for this study. Opportunities emerge for young students to manipulate language consciously and physically by moving around text elements and re-ordering them to create new meanings, supported by dialogic interactions with peers, when playing the grammar games used in this study. It is not yet understood in what ways these games might contribute to the development of students' early metalinguistic understanding, how metalanguage can be practised by students through dialogic exchanges during game play, or how their developing metalinguistic understanding may support them to engage with abstract grammatical concepts. These are questions the study seeks to explore as a contribution to further understanding metalinguistic development in the context of grammar instruction and the development of students' knowledge about language.

To understand how learners become more metalinguistically aware, outside the context of second language learning where previous research efforts have been concentrated, Chen and Jones (2012) used a case study to explore the metalinguistic development of primary and secondary students in the context of writing. Their research "provides a detailed description of what constitutes evidence of conceptual change in students' metalinguistic understanding drawing on Vygotskian and Hallidayan traditions" and is an important step

towards developing a framework for mapping how students' metalinguistic understanding develops (p. 14). The data collected in this small case study comprised semi structured interviews with the case-study students and their work samples, together with classroom observations and extracts of classroom talk. Two consecutive writing lessons intended to teach students about clause structure to improve their descriptive writing were recorded and analysed in order to examine how the teacher's pedagogy supported students to notice and understand metalinguistic knowledge. Two writing samples, composed by each of the three students selected from the case study to be interviewed, were collected and analysed for evidence of students' learning of grammatical concepts.

Supporting the analysis of the interview data was an analytic framework developed on the premise that metalinguistic understanding involves a process of concept formation, a process which Vygotsky (1986) describes in terms of *generalisation* and *systemisation*. Halliday's notion of expansion, the three categories of which, elaboration, extension and enhancement, were also used to develop the analytic framework used in the study to identify through the data how metalinguistic understanding developed. The findings of this study suggest that students' metalinguistic understanding developed along a pathway from *identifying,* to *generalising,* and finally, *systematising.*

While an important contribution to understanding more about how metalinguistic development manifests and the trajectory of development it follows was made by Chen and Jones (2012), the small scale of the project and the single case study design does not allow for generalisable findings to be made. Further, the analytic framework was applied to students' talk as they explained their writing choices in a semi-structured interview. This is problematic as it relies on students' writing abilities to be proficient enough to display evidence of their understandings of the grammatical concepts that were taught, so that they could then talk reflectively about their writing choices and demonstrate their metalinguistic understanding. There are potentially intermediary developmental steps in between knowing and understanding a grammatical concept and being able to systematise this knowledge through writing that may have been overlooked, and thus, further investigation into metalinguistic understanding and how it develops is warranted.

Building on Chen and Jones' (2012) framework for metalinguistic development in students, Chen and Myhill (2016) investigated students' metalinguistic understandings by drawing on data selected from two parallel studies in Australia and England. In this study,

students aged 9 to 13 were interviewed about their metalinguistic understanding in relation to their own writing samples in order to extend what was already known about "the connections learners make with respect to a grammatical concept in their metatalk" (Chen & Myhill, 2016, p. 102). To extend the existing framework, Chen and Myhill (2016) suggest the following four categories of metalinguistic understanding:

- *Identification*: the locating and/or naming of a particular concept;
- *Elaboration*: the elaboration of the concept through explanation or exemplification;
- *Extension*: the stretching of understanding from the concept to its link with writing;
- *Application*: the articulation of how the concept creates meaning in written text. (2016, p. 103)

Analysis by Chen and Myhill (2016) of four student interviews and writing conversation vignettes using this analytic framework found evidence supporting each of the four metalinguistic categories. Student responses fell into the *identification* category more frequently than *elaboration* or *extension*, with evidence of *application* in student responses being more restricted and less frequent. While this qualitative study was small in scale and results are not generalisable, it suggests that these categories may be a useful framework for further analysis of students' developing metalinguistic awareness in pursuit of understanding "what pedagogical strategies might facilitate higher-level metalinguistic understanding, enabling learners to elaborate, extend and apply their grammatical knowledge" (Chen & Myhill, 2016, p. 107).

The small number of student interviews analysed in the studies by Chen and Jones (2012) study and Chen & Myhill (2016), three and four respectively, mean that while the proposed frameworks for metalinguistic development fit the trajectory of learning and understanding for these students, further research is necessary to determine whether this kind of framework is applicable to a larger sample of students. Additionally, Chen & Myhill (2016) only included participants from upper primary school and secondary school, and thus their proposed framework may not capture the pathway to metalinguistic understanding travelled by much younger learners.

The analytic framework proposed by Chen & Myhill (2016), and its potential for supporting new understandings for how students develop metalinguistic awareness, will be considered in the data analysis phase of this study. This is because it has potential for understanding the categories of metalinguistic understanding displayed by students as they engage in dialogue fostered by a games-based approach to learning about language. While the analytic framework was useful in categorising the trajectory of metalinguistic understanding demonstrated by upper primary and secondary students as they talked about their writing, a critical consideration will be whether it is similarly useful for categorising how the metalinguistic understanding of very young students develops, and whether new ways of thinking about how their metalinguistic understanding develops is required.

2.4.2.2 Shared metalanguage for talking about language and dialogic interactions

How students develop and articulate knowledge about language has continued to be a feature of research. This kind of metalinguistic reflection or metatalk is conceptualised by Watson and Newman (2017) as:

> … the process of explicitly addressing language as an object of study. This comprises consideration of both form and function: it can occur with or without the use of a specific body of terminology, and may be accompanied by an ability to relate linguistic features to authorial intention or impact on a reader (p. 382).

Reference to the use of grammatical terminology, or metalanguage, frequently appears in research into the development of students' knowledge about language, often in relation to the development of a metalanguage with which students can engage in productive talk, or dialogic interaction, about language. Whilst Myhill (2018b) points out that there is still much to be understood about whether a metalanguage based on grammatical terminology supports, or otherwise, the development of metalinguistic understanding, there is a growing body of evidence that suggests providing students with access to a grammatical metalanguage to use when engaging in interactions about language would have positive outcomes for students, the nature of which will be further explored in this study. In this section of the chapter, the literature reviewed has an explicit focus on metalanguage use, often in the context of purposeful pedagogic moves to foster dialogic interaction. The use of a more formalised approach to teaching dialogically than is seen in the studies reviewed here,

Alexander's model of Dialogic Pedagogy (Alexander, 2008b, 2017), is elaborated in *Section 2.5.*

Young children and metalinguistic understanding

Developing metalinguistic understanding and students' use of metalanguage are often explored in students who are nearing, or have already entered secondary school, perhaps due in some part to an underlying view (left over from Piagetian stage theory that will addressed in *Section 2.5*) that young children may not be developmentally ready for this kind of learning. However, in her exploration of teaching functional grammar in junior primary classrooms, French (2013) challenges the assumption that young children are unable to grapple with more abstract metalinguistic descriptions. In this qualitative case study comprising students across two Year 2 classes at an inner suburban public primary school, (French, 2013) collected and analysed transcripts of student and teacher dialogic interactions, student interviews, work samples and classroom observation notes. This type of qualitative data, which, as argued above, should not have been excluded from Graham & Perin (2007) and similar meta-analyses, provides key insights into how process and pedagogy are related to students' understandings about language. As French (2013) reasons, "learning outcomes need to be interpreted in light of the interactions in which learners have participated" (p. 126). The Year 2 students in her study were taught metalinguistic terms that were aligned to the traditional terminology of the syllabus at the time, such as *verb*, but were functionally oriented with classifiers such as *action* and *saying* to make *action verb* or *saying verb*. These terms were elaborated with further functional, everyday probe questions such as "who did the saying?" to support students in their understanding (French, 2013).

By applying this contextualised, or embedded, approach to teaching grammar French (2013) found that the "use of consistent metalanguage within and across grades of schooling is one way in which instruction can support learners in building grammatical knowledge cumulatively" (p. 393). These findings are important for the research project reported in this thesis for two reasons. Firstly, this research will build on the finding that students as young as those in Year 2 can engage with grammatical metalanguage and will explore the potential of a games-based approach to support students as young as those in Year 1 to develop their metalinguistic understanding with the support of metalanguage. Secondly, this study will take the analysis of students' metatalk a step further, in order to explore possible additional developmental phases of metalinguistic understanding through which students may progress.

English language learners and metalinguistic understanding

A similarly embedded or contextualised approach to teaching grammar as French's (2013) study is Moore, Schleppegrell & Palinscar's (2018) research into the use of SFL metalanguage to support academic language development. Where French (2013) saw the potential of metalanguage to support very young students in developing early grammatical understandings, Moore, Schleppegrell and Palinscar's (2018) study explored the potential of metalanguage to support English learners (ELs) across a broader age group as they engaged in grade-appropriate literacy activities such as reading and responding to texts and writing subject-specific arguments. In this study, the researchers and teachers worked collaboratively to develop lesson materials that would support students in their ability to interpret and evaluate characters' attitudes in literary texts through an explicit focus on language. Metalanguage was a driving feature of the lesson materials with the aim that teachers would:

> …[use] the metalanguage to interact with their students in ways that would meaningfully attend to language forms and meanings, and would enable ELs to engage in the kind of talk about language relevant to subject area learning that would support them in grade-level work (Moore et al., 2018, p. 1029).

Results taken from the second year of this three-year study demonstrate that the use of an SFL metalanguage has the potential to support teachers in initiating meaning-based conversations about texts as well as to support students to make language form-meaning connections, engage with purposeful and meaningful textual analysis and participate in whole class discussions using academic language in richer ways than are usually seen in English Language Learner (ELL) classrooms (Moore & Schleppegrell, 2014).

The design-based research (DBR) approach used in the Moore et al. (2018) study should be considered an especially important contribution to this field of research as it is one of the first studies to use DBR to support the development of an *instructional theory* relating to functional grammar within an authentic classroom context. The DBR process allowed the researchers to collaborate with teachers in order to co-design materials that were contextually appropriate for the six participating schools in the predominantly bilingual, high poverty, urban public school district in the Midwestern United States and for the schools' literacy curriculum. Classroom teachers and instructional support coaches involved in the research project were provided with professional development that "prepared them to use SFL metalanguage to engage students in rich talk about curricular texts and to support them in

writing valued genres" (p. 95). Beginning with a theory of change and design principles derived from previous research, teaching materials and lessons were designed, implemented and observed, after which an evaluation occurred to identify limitations, followed by a return to the initial design principles for further development to more closely align them with the initial goals. This robust, three-year process provisioned teachers with valuable pedagogic principles for developing students' knowledge about language and enacting curriculum content in the discipline of English, an outcome echoed in the aims of the study reported in this thesis. While this study uses a qualitative case study methodology, it is informed by some of the DBR design elements used in the Moore et al. (2018) study, specifically, a close examination of student dialogic exchanges with the view to understanding whether the teaching materials developed, in this case, the games-based resources, had the desired outcome in supporting students' developing metalinguistic understandings.

Metalinguistic understanding and classroom talk

A further strength of the Moore et al. (2018) study is the qualitative analysis of classroom discourse that shows, first, that SFL metalanguage provided students with a tool for talking about texts and, second, that learning was accomplished through these dialogic exchanges. The paper also offers evidence from these dialogic exchanges that the use of SFL metalanguage extends students' language and content knowledge (pp. 98-101). The findings of Moore et al.'s study are closely aligned with the research aims of the study for this thesis; however, this thesis will also explore whether learning about language can be accomplished through dialogic exchanges that are not mediated by the teacher, but instead occur spontaneously through game play. The discourse analysis used by Moore et al. (2018) identified *critical events* that had a profound impact on the thinking of the researchers and changed the direction of the work, and *like events* that illustrated or repeated the experience of the critical events. Rather than looking for patterns of language use that fit a framework as Chen and Myhill (2016) have done, Moore et al. (2018) looked at the events of the classroom from a macro level, identifying catalyst moments. This supports the research methodology of the study reported in this thesis, in which critical events, termed *learning moments* have been identified, for example, events of dialogic interaction that are catalysts for new understandings where grammatical concepts might be revealed or understood for the very first time.

Although a functional or meaning-based approach to grammar instruction has frequently been adopted in contemporary grammar research, not all grammar interventions that have been studied use an SFL based metalanguage. Nevertheless, the use of an embedded or contextualised approach to grammar with relevant metalanguage, functional or otherwise, seems to be a recurring theme in more recent research (French, 2013; P. Jones & Chen, 2012; Moore et al., 2018; Rose & Martin, 2012; Watson & Newman, 2017).

In their exploration of the impacts of embedded or contextualised grammar instruction on students' writing and metalinguistic understanding, Myhill, Jones, Lines & Watson (2012) adopt an intervention in which "grammar was embedded where a meaningful connection could be made between the grammar point and writing" (p. 146), but where the metalanguage explicitly taught to students used traditional or conventional terminology. The use of particular language choices to enhance writing effectiveness and to make meaning in writing was the main teaching focus of the units of learning designed by the researchers for the intervention group; however, grammatical metalanguage was explicitly taught and explained through examples and patterns (p. 148). The study found that the grammar instruction intervention had a statistically significant positive effect on writing and metalinguistic understanding. Achieving these positive outcomes for students using a metalanguage based on traditional grammar terminology is an important consideration, particularly in a research field that is becoming increasingly dominated by an SFL approach to grammar, despite English curriculums, as discussed earlier in this chapter, remaining uneasy about adopting a functional model of language including functional terminology. This suggests that whether functional or traditional, having a language to talk about language is a critical component of grammatical instruction, a notion explored in this thesis. Furthermore, Myhill et al. (2012) demonstrate the importance of a contextualised and embedded approach to grammar, an approach characterised by a set of pedagogical principals that, notably, include "the encouragement of language play, experimentation and games" among others. The games-based learning that informs this thesis is similarly embedded so that students are able to make meaningful connections between the grammatical concept and its use in reading or writing (see Figure 4.1 in Chapter 4 for how the grammar games are embedded within the *literacy block*).

Comparing the kinds of grammar and accompanying terminology, either functional or traditional, used by each of the studies mentioned above serves to illustrate that there is more

to learn about which of these models may be better suited to the classroom in different contexts. Similarly, comparing the kinds of research designs used in each of these studies illustrates that there is more to learn about which kinds of research may be better suited to understanding how grammar instruction supports students' understandings about language. In Myhill et al.'s (2012) cluster randomised control trial (RCT), a large sample size comparative to other studies was used, with the study involving 744 students across 31 classes in 31 different schools in the south-west and Midlands of England that were randomly allocated to either a comparison or intervention group. Researchers in this study pre-planned units of learning which were provided to teachers in the intervention group; later proving to be a limitation of the study as the researchers acknowledge in their findings that the materials appeared to preference more able students in the intervention group. The sheer scale of the study, despite providing more generalisable findings, prevented the researchers from responding to student and teacher need in the ways Moore et al.'s (2018) DBR approach of co-designing instructional resources with participating teachers and making changes to materials based on reflection and evaluation was able to do.

Students' metalinguistic talk

Another contextualised or embedded grammar intervention is found in Watson and Newman's (2017) study investigating the metalinguistic reflections of a group of 14-15 year old students. Similarly to Myhill et al. (2012), rather than offer students a metalanguage grounded in SFL as has been a recurring feature of other contemporary studies, they developed students' metalanguage using traditional or conventional grammatical terminology, citing that in England, the curriculum is explicit about the concepts and terminology students are expected to learn and explaining that these are tested in a National Spelling, Punctuation and Grammar (SPAG) test when students are 10 or 11 years old. This qualitative investigation formed part of a broader study investigating the impact of a contextualised grammar intervention on students' reading and writing development. The 12 student participants for the qualitative strand of this study came from medium-sized, mixed comprehensive state schools on the south coast of England, with the grammar intervention being taught as students prepared for The General Certificate of Education (GCSE) qualification in English Language.

For the purposes of their study, Watson and Newman theorise metalinguistic reflection as:

> The process of explicitly addressing language as an object of study… [that] can occur with or without the use of a specific body of terminology, and may be accompanied by an ability to relate linguistic features to authorial intention or impact on a reader (p. 382).

The results of analysis of student interviews designed to elicit metalinguistic reflections showed that metalinguistic terminology supported students in their ability to identify and articulate syntactic patterns and relate these to the effect of the writing on the reader, a demonstration of the description by Chen and Myhill (2016) of metalanguage as a mediator in the development of new knowledge (Watson & Newman, 2017). The study also found that:

> Verbalisable understanding of the impact of syntactic features, in particular, is improved when students have access to terminology which helps them to identify and articulate patterns more precisely (p. 395).

If this is true for the 14 and 15 year old student participants in Watson & Newman's (2017) study, then it is worth investigating whether the 6 and 7 year old student participants playing grammar based games as part of the study that forms the basis of this thesis also benefit from having access to terminology that might allow them to articulate their understanding more precisely.

Metalinguistic understanding appears to be most commonly explored through the process of talk. Engaging in this kind of talk about language, through the process of reflecting on language use has been described as metalinguistic reflection, or metatalk (Swain, 1995; 1998, as cited in Newman & Myhill, 2016). First conceptualised in the context of second language (L2) learning, metatalk has continued to be explored from a variety of different perspectives within the L2 field, with a common emphasis placed on verbalisation of metalinguistic knowledge as an insight into student understanding (Newman & Myhill, 2016, pp. 178-179).

Extending the study of metalinguistic reflection, or metatalk, into the context of L1 learners is Newman & Myhill's (2016) exploration of how teachers go about orchestrating metatalk in the classroom to support learners' capacity to engage in metalinguistic discussion about writing. This study drew on a qualitative data set collected alongside the quantitative data used during a randomised control trial (RCT) that set out to examine the efficacy of a

teaching intervention aimed at developing students' metalinguistic understanding, the findings of which are discussed in more detail later in this chapter. The complementary qualitative data gathered during the RCT included 53 randomly selected lesson observations that were audio-recorded and transcribed. Transcriptions were then coded, focusing on teacher management of high-quality talk that made connections between grammatical constructions and their effect in writing.

Findings from this study highlight the important role that teachers' play in both "the creation of dialogic spaces for the exploration of semiotic mediation in writing" and "management of discussion about metalinguistic choices in writing" (Newman & Myhill, 2016, p. 187). The secondary school students who participated in this study have demonstrated, through the pedagogic work of their teachers, some ability to engage dialogically in metalinguistic thinking about grammatical constructions and their effect in writing. However, the field has not yet directed its attention to how these students could have been better prepared to do this kind of thinking and talking during their early years of schooling. Moreover, while the creation of dialogic spaces through the teacher's careful management of metatalk is highlighted, it is implied that dialogic space exists exclusively between the teacher and student. However, it has not yet been explored whether dialogic space within which metalinguistic talk occurs could be orchestrated without the presence of a teacher, for example, by creating shared social spaces by playing grammar games in small groups.

2.4.3 The importance of teachers' linguistic subject knowledge in developing students' metalinguistic understanding

Teachers' subject-matter knowledge relating to language and grammar, referred to as linguistic subject knowledge (LSK) played an important role in both Moore et al.'s (2018) and Myhill et al.'s (2012) research design, more implicitly in the former and explicitly in the latter. Myhill et al.'s (2012) RCT complemented quantitative pre and post-test writing data with qualitative measures including teacher and student interviews. An interesting finding of this study was that often the responses of students when talking about their textual choices in their writing closely mirrored what their teachers had said in lessons and that "because some of the teachers did not have sufficient LSK to handle metalinguistic discussion confidently, students' understanding was correspondingly limited" (p. 158). It became apparent through

this study that teacher LSK, initially assessed at the beginning of the study to ensure the intervention classes were spread across a range of teacher LSK scores, was a significantly mediating factor in the success of the intervention. Knowing this likely influenced Moore et al.'s (2018) decision to integrate teacher professional learning to build teacher LSK into their DBR study. Myhill et al. (2012) also conclude, importantly, that:

> … teachers need to be able to apply their LSK to published texts and to children's own writing, identifying significant linguistic features and being able to make connections for writers between a feature and its impact on a text or reader (p. 162).

The robust RCT methodology allowed for a statistical analysis of the success of the intervention relative to a teacher's LSK, making the point that whilst a meaning based approach to grammar that includes the use of grammatical metalanguage can have statistically significant positive effects on student writing achievement, it is the intersection of teacher LSK with pedagogical practice that will influence the success of such interventions. Whilst Myhill et al. (2012) have demonstrated the success of their intervention with statistically significant quantitative data across a large, randomised sample size, Moore & Schleppegrell's (2014) study provides more detailed qualitative analysis of what can be achieved when an SFL metalanguage is used in tandem with developing teacher's LSK and using pedagogical repertoires that are appropriate to context and student ability.

Increasingly, teacher linguistic subject knowledge and pedagogy are being brought to the forefront of research in language and grammar instruction. In Jones, Myhill and Bailey's (2012) randomised control trial investigating the impact of contextualised grammar instruction on students' writing performance, it was noted that teachers' grammatical subject knowledge (GSK), referred to by Myhill et al. (2012) as teachers' LSK, had an impact on the success of the intervention. More specifically, students in intervention classes where teachers had a lower level of GSK demonstrated less improvement in their writing than students in intervention classes where teachers had higher levels of GSK. Furthermore, it should be noted that this study did not focus on grammatical error or accuracy (p. 8), but instead investigated contextualised grammar instruction with a focus on helping young writers to recognise how meaning is made through grammatical choices and how these choices can shape texts for communicative purposes. Thus, this study provides further evidence that the relationship between teacher GSK, or LSK, and pedagogical practice is vital to understanding how best to develop students' knowledge about and metalinguistic understanding. Although

the research informing this thesis largely intends to analyse captured dialogic exchanges between students, dialogic interactions between students and the teacher also form an integral part of the learning experience for students as they develop their grammatical understandings.

2.5 The theoretical orientation of the study

The body of evidence reviewed in previous sections of this chapter has established a link between students building the type of knowledge about language that supports educational success and grammar instruction that is functional, contextualised, dialogic and supported by the development of a shared metalanguage. This is the type of grammar instruction that is embodied in the games-based approach central to the study reported in this thesis. In this approach, multimodality is used as a further semiotic resource to support student learning.

This section introduces theoretical perspectives underpinning the design of the games, including:

- a functional description of grammar derived from Halliday and Matthiessen (2004) used as a framework for selecting the grammar features students learn through playing the games;
- a social constructivist games-based pedagogical approach with its origins in the work of L.S. Vygotsky (1978, 1986);
- the dialogic teaching framework proposed by Alexander (2010) which guides the analysis of student and teacher dialogic interactions captured during data collection; and
- the use of multimodality as a semiotic resource.

2.5.1 A functional description of grammar

The selection of grammar features to be learned by the students through playing the games was based on a functional description of grammar derived from SFL, a social semiotic approach to describing language and other meaning systems (Halliday & Matthiessen, 2014). This approach describes language, and other types of meaning making, in terms of systems of choice, rather than rules. It enables close exploration of the meaning making potential of language, and provides a framework for understanding how these meanings are realised,

alongside a metalanguage for talking about language. In this study, Year 1 students were given terms to describe the main functions of parts of the clause in ways that helped them learn about how clauses are structured to make meaning.

Describing language in terms of function and meaning allows teachers and students to explore how meanings are made at a word, group or clause level, and to relate these meanings back to the whole text in which the words, groups and clauses are used. In this way, students can consider whether particular language choices are effective in achieving the social purpose of a whole text. As Jones et al. (2012) explain:

> … understanding and analysing how language works in different purposes and contexts makes connections for learners between language as an object of study and language in use (p. 5).

A descriptive rather than prescriptive approach to learning about language in general, and grammar in particular (French, 2013), allows for the study of spoken and written texts as they occur in real settings. The focus shifts away from teachers making judgements about whether student texts conform to a prescribed set of decontextualised rules and towards a far more useful approach in the primary classroom, one in which teachers turn their attention to the types of texts that students in the early years are more likely to produce. Students can be helped to identify how meaning is made in a range of informative and persuasive texts, as well as the kinds of engaging literary texts that young students find so appealing, especially when authors play with language in interesting ways and subvert traditional grammatical rules. Williams (1999) asserts that children, through their play, demonstrate curiosity about language and that there is evidence to support a claim for the developmental significance of language play. Thus, approaching the teaching of a meaning-based grammar by exploring language through play or through playful texts warrants further exploration.

Using a functional approach to develop students' knowledge about language has the potential to support students' language and literacy development more effectively than teaching them traditional school grammar. Where traditional grammars tend to be used to classify words in terms of parts of speech according to rigid rules, a functional approach to describing language enables teachers to illustrate for students how language makes meaning or how language use varies according to context and purpose (Derewianka, 2012, pp. 129-131), thus, achieving the aim of providing:

> … a sense of how the grammar makes meaning in written and spoken text, illustrating the distinctive contributions made by the different options within a given system (Halliday & Matthiessen, 2004, pp. ix-x).

When language is understood in this way, as a resource for making linguistic choices that allow for social meanings and desired social purposes to be achieved, it can be used as a powerful educational and research tool.

The functional approach has shaped recent curriculum changes in Australia and other Anglophone countries (See *Section 2.3*), although widely-used and familiar traditional terminology has been retained. For this reason, a functional approach to describing the parts of the clause as a means of supporting the development of students' cumulative knowledge about language was applied in the study reported here. Descriptions of the grammar games in Chapter 4 illustrate how the functional parts of the clause, and accompanying functional metalanguage, have been deployed in the game design as a means of building students' knowledge about language and how it works.

2.5.2 Social constructivism and games-based learning

A social constructivist games-based pedagogical approach with its origins in the work of L.S. Vygotsky (1978, 1986) is another theoretical foundation of this study. Whereas the constructivist theory proposed by Piaget suggests the child is a solitary learner, internally making meaning out of interactions between their experiences and ideas to progress along fixed developmental stages (Inhelder & Piaget, 1958; Piaget, 1932), a social constructivist theory proposed by Piaget's contemporary, Vygotsky (1978, 1986), emphasises the importance of *interactions* with adults and more capable peers, and with intellectual tools to support learners in forming new constructs. From this perspective, social activity and intellectual activity cannot be separated; interactions that take place within specific social settings are responsible for the subsequent learning. Participation in classroom interactions with peers provides students with:

> … opportunities for language use, and that participation enables learners to internalise new ways of using language…what we experience in social interaction shapes our knowledge about language and about the world (de Oliveira & Schleppegrell, 2015, p. 40).

From a Vygotskian perspective, children's mediating interactions are more significant to their learning and development than mere age or developmental stage. These interactions move children along a continuum, from what they already know, via shared understandings with others, to independent knowledge and understandings that can be applied and used in other contexts. This point is particularly salient in the context of this study, as young children are often considered too developmentally immature to work with abstract knowledge such as grammatical systems of language. This legacy of Piagetian stage theory, often foregrounded in teacher education, has entrenched the notion that primary school aged students' cognitive development is simply not ready to move away from the actual and tangible, and cannot yet manage abstract thinking (French, 2013, pp. 93-95). This study challenges that view and instead explores whether a games-based approach can open up a social learning space within which mediating interactions between peers and at times, their teacher, support students along a continuum of growing metalinguistic understanding. The dialogic interactions captured during the study will be analysed in order to understand whether these interactions do in fact mediate grammatical knowledge in a way that builds students' metalinguistic understandings.

Moreover, this study will be used to explore whether, in addition to mediating interactions, materialised mediating *tools* such those provided by the grammar games have the potential to be equally important in assisting students, especially those in the early years, to develop grammatical understandings. In an educational context, mediating tools of this type could be those that enable object-oriented student material activity, that is, concrete or real-world activity, through which students' knowledge and understandings are developed. For the purposes of this study, materialised mediating tools include the multimodal games resources, for example, the manipulable clause parts in the games, colour-coded dice with probe questions or the carefully designed game boards. The functional metalanguage is also used as a mediating tool to assist students in developing their knowledge about language French (2013). Thus, the games design can be described as a combination of material and metalinguistic activity that allows students to build their abstract grammatical knowledge to the point where they can apply the knowledge independently in other contexts. The mutually supportive mediating interactions and mediating tools work in concert while students play the grammar games.

The pedagogical process known as *scaffolding,* a contribution made by Bruner (1978) to social constructivist theory, is also a key theoretical lens through which to view the games-

based pedagogic intervention. The process of scaffolding refers to the purposeful act of reducing the "degrees of freedom in carrying out some task so that the child can concentrate on the difficult skill she is in the process of acquiring" (Bruner, 1978, p. 19). As will become apparent through the description of the game design in Chapter 4, deliberate design choices provide students with enough support and limitation so that they are able to narrow their attention to a more manageable task. Further, as the games act as a scaffolding tool, they also support students to progress through what Bruner (1966) describes as three modes of representation: *enactive* (action-based); *iconic* (image-based); and *symbolic* (language-based). If instruction is organised in an appropriate way such that it loosely allows for progression through these three modes, where children require this level of support, Bruner argues, children will be capable of learning new concepts. In alignment with Bruner's theory, this study is designed to capture students learning the grammar content, learning enabled through movement (enactive), image, colour and text (iconic) and dialogic interactions (symbolic).

The notion of play and imaginative exploration, an important mechanism for games-based learning, was also raised by Vygotsky, and his contemporary Montessori, as a means by which children extend their level of functioning from what they already know to a new level of understanding and meaning. Williams (1999, 2004, cited in Feez, 2007) identifies language play as significant in language development, arguing that children should be encouraged to play with language, and language play should be part of grammar teaching and learning. This further builds the case for exploring the use of a games-based pedagogy for developing students' knowledge about language as proposed in this study, as this mediating tool could allow for the kinds of imaginative and exploratory language play that would assist students in building new understandings about language.

Understanding how the games in this study fit within traditional and contemporary notions of games and play is challenging due to technological advancements over the last 40 years. The kinds of games and play that were envisaged by educational theorists such as Piaget, Vygotsky and Montessori were grounded in the available technology of the time. Specifically, the kinds of games-based interactions that were held as being important for children's learning and development were characterised by social interactions, the use of language, physical interaction, including with manipulatives, within the learning space, and tangible rewards; the lack of diverse technologies available to educators in the 21st century ensured that understanding of the terms 'play' or 'games' was shared. The advancements in

digital technologies over time have changed the landscape of games and play, with gaming and gamification now highly researched topics in the field of education. Definitions of games-based learning in contemporary educational research are largely concerned with digital-gaming environments purposefully designed to gamify learning through the "use of game elements, such as incentive systems, to motivate players to engage in a task they otherwise would not find attractive" (Plass, Homer, & Kinzer, 2016, p. 259).

While the games used in this study are not digital and rely on hands-on play in a shared social space, they do share some of the benefits highlighted by research into digital games and video-gaming. A summary of current arguments being put forward in support of digital games-based learning include the following: motivation; player engagement; adaptivity; and 'graceful failure'(Plass et al., 2016). Moreover, positive attributes of video games as potential resources for learning have been detailed, for example, by Gee (Gee, 2003, 2004, 2005, 2008, 2013). The attributes of video games that make learning pleasurable include: a cycle of hypothesis, probe, reflect, re-probe; low consequence of failure; practice until routine mastery is achieved; and performance before competence (Gee, 2008). These attributes, Gee suggests, should ideally be features or resources used in any successful classroom learning environment. Additionally, (Habgood & Ainsworth, 2011) highlight other intrinsic and interpersonal motivators that can exist within the digital game environment including cooperation, competition and recognition.

Many of these attributes can also apply to non-digital forms of classroom games such as those used in this study, although this is beyond the scope of the study to evaluate to what extent this is the case. Consideration should be given to how such non-digital games can enhance student motivation, participation and engagement, especially as traditional approaches to teaching grammar were rarely characterised as being especially motivating or engaging. The terms 'graceful failure' or 'low consequence of failure' repeatedly arise in literature about the benefits of digital games-based learning, and it is expected that the hands-on grammar games used in this study should create similarly low risk environments, where students feel confident to play with language and explore new ideas without the risk of failure. Despite the non-digital nature of the games used in this research, it is expected that they will also foster student participation and engagement with language and a functional metalanguage. High levels of student participation and engagement is widely recognised as being vital for successful learning in the classroom (Dufficy, 2005; Martin, 2007; McInerney

& McInerney, 2006). The use of games should prove a highly engaging means for students to interact with the structure and function of language and to rehearse their grammatical metalanguage. Research shows that higher levels of engagement contribute to student uptake of knowledge and overall student achievement (Louden et al., 2005), thus providing further support for investigation into the use of a games-based approach as a successful pedagogical approach to developing students' knowledge about language.

2.5.3 Alexander's model of dialogic teaching

The relationship between positive student outcomes and the presence of dialogic exchanges between teachers and students that arise from contextualised or embedded pedagogical approaches to explicit grammar instruction have been foregrounded above. The evident shift in classroom practice from monologic to dialogic teaching has been gradual, and not without its challenges, with a substantial body of research in this field spanning over 60 years (Myhill, 2018a). Moreover, dialogic teaching is not an approach confined to Anglophone countries, but rather its strength as a pedagogical tool is derived from the diverse range of international settings within which theories of classroom talk have been developed. Alexander's model of Dialogic Teaching (Alexander, 2008b, 2017) draws together a number of key ideas about the role of talk in learning and is a further theoretical lens through which to view the kinds of dialogic exchanges that arise while students are learning about language and grammar through games.

During the 1970s, the exploration of language patterns in classroom talk became a focus for educational researchers. An influential researcher in this field, Douglas Barnes coined the term exploratory talk, and through his interest in small group student talk was able to "show the value of encouraging such talk as a tool for learning" (Christie, 2018, p. 3). Building on the work of Barnes, further elaboration of exploratory talk is offered by Mercer (1995) who notably considers whether learning can occur from talk between peers in the absence of a more knowledgeable other. Exploratory talk is distinguished from other types of talk, for example cumulative talk or disputational talk. In exploratory talk:

> … knowledge is made more publicly accountable and reasoning is more visible in the talk. Progress then emerges from the eventual joint agreement reached (Mercer, 1995, p. 104).

A range of other perspectives on dialogue have since emerged following the early work by Barnes, with each model rooted in the work of thinkers such as Bahktin, Socrates, Vygotsky, Buber and Freire (Leftstein & Snell, 2014, p. 14). In providing a summary of how these dialogic philosophies translate to classroom practice through dialogic pedagogies, Leftstein & Snell (2014) identify four models: *dialogically organised instruction, exploratory talk, accountable talk,* and *dialogic teaching.* Alexander's model of Dialogic Teaching (Alexander, 2008b, 2017) has been adopted in this study as a framework with which to analyse the kinds of dialogic interactions captured in this study and so will be unpacked below.

Alexander's (2008b, 2017) model is based on five key principles of teaching and learning talk, providing an organisational framework within which teacher and student interaction can be studied. It draws together a number of key ideas about the role talk plays in learning and is based on the understanding that:

> …language not only manifests thinking but also structures it, and speech shapes the higher mental processes necessary for so much of the learning that takes place, or ought to take place, in school (Alexander, 2008a, p. 92).

Prior to the development of Alexander's dialogic model in its current form, in his study entitled *Culture and Pedagogy,* the uses of classroom discourse were compared in schools in England, France, India, Russia, and the United States. On the basis of this study, Alexander argued that "the pedagogy of the spoken word was perhaps the one that should be pursued with the greatest urgency" (p. 96). What arose from the data in this study was the need to firstly identify repertoires of talk from which teachers could select based on need or purpose. This early work informed the development of Alexander's current dialogic model and the repertoires of talk it contains, which were important for the analysis of the students' dialogic interactions in this research study.

Alexander's framework comprises four main components: justifications, principles, repertoires and indicators. The repertoires of talk, which Alexander writes are the "heart of the operation" (2018, p. 4), comprise six repertoires of talk that combine *interactive settings, everyday talk, learning talk, teaching talk, questioning* and *extending* (Alexander, 2017, pp. 37-40). Learning talk, which Alexander explains consists of a range of opportunities for students to narrate, explain, speculate, imagine, explore, analyse, evaluate, question, justify,

discuss and argue is of particular relevance to this study as these ‘types of talk’ will form the basis of the analysis of dialogic interactions captured in the data.

A large scale randomised control trial of a dialogic teaching intervention based on Alexander’s dialogic teaching framework that was conducted for the purpose of maximising the power of classroom talk to enhance student learning and engagement has shown promising results (Alexander, 2018). The principles and repertoires underpinning this framework were used to structure teacher professional induction and training followed by planning, target-setting and review cycles using an analysis of audio and video recordings of classroom talk and interactions. To address the potential for varied interpretations by multiple researchers of the purpose of the talk in each student’s turn in the dialogue, and to ensure coding consistency, Alexander (2018) trained and checked the coders involved in this large scale Dialogic Teaching Project. This RCT, supported by the UK Education Endowment Foundation was trialled across four large urban centres in the UK and had a combined intervention and control cohort of nearly 5000 middle-primary students and 208 teachers. The dialogic teaching intervention was not limited to a narrow curriculum area such as grammar, but rather included the curriculum areas of English, mathematics and science. An independent evaluation of the project calculated that following 20 weeks of the intervention program, students in the intervention group were “…two months ahead of their control group peers in English, mathematics and science tests; while coded video data showed that the changes in both teacher and student talk were striking and in the direction intended” (Alexander, 2018, p. 1). The outcomes of this RCT demonstrate that the use of Alexander’s dialogic teaching framework as a pedagogical tool in the classroom warrants further exploration across a range of different contexts, including, for example, the use of a games-based approach for enabling the kinds of dialogic interactions that Alexander details in the framework, including *learning talk.*

The use of a shared functional metalanguage is a useful support for enabling students to produce the types of talk that Alexander proposed. Furthermore, when paired with other *mediating tools*, such as the carefully designed games in this study, students will have opportunities to "discuss reasons for their choices, argue and justify their position, as well as ask questions of each other to clarify understandings" (Cochrane et al., 2013). The design of the games used in this research will allow students to grapple with the functionally-oriented grammar content and rehearse metalanguage and terminology in a dialogically rich, peer-

supported environment. Alexander's framework will support the analytic phase of this project by providing a lens through which to view the dialogically-rich environment captured in the data, and to make sense of it.

2.5.4 Multimodality as a semiotic resource

The games-based pedagogical approach explored in this research features multimodal representations of grammatical functions and associated metalanguage. Furthermore, as students play the games, additional meaning-making resources using a range of modes emerge that are provoked by the game design. Thus, multimodality is a further theoretical lens that informs this research project. The data analysis phase of this project will seek to uncover evidence of how students are making use of the multimodal resources available to them in order to support their developing knowledge about language. These multimodal resources include manipulatives, spoken and written language, colour, movement, and gesture.

Multimodality can be defined as "…any form of communication that employs more than one medium to convey meaning" (Gaudin, 2019, p. 7). As a meaning-making resource, multimodality has emerged from the theory of social semiotics. In the years since this theory was first published in *Language as Social Semiotic* (Halliday, 1978), it has been broadened to account for not just language, but other modes of meaning-making including image, gesture and gaze, for example, Hodge and Kress, (1988). According to Kress & van Leeuwen (2002), "what makes a mode mode-like is its availability as a resource for making signs in a social–cultural group" (p. 346). Thus, modes can act as semiotic resources through which students make meanings. Crucially, multiple modes of meaning making began to be viewed as working in cooperation, rather than in isolation, leading to Kress and Van Leeuwen (2001) expressing a view of multimodality in which "…common semiotic principals operate in and across different modes" (p. 2). The grammar games played by students in this study are multimodal in nature, and therefore contain multiple semiotic resources that students can access. This is a salient point through which to appreciate the data in this study, as the ways in which meaning is made and understood in and across different modes as students play grammar games is a focus of this research.

Multimodal resources for the classroom, such as the games used in this study, are those resources which allow for multiple forms of communication (Kress, 2008). These

resources have the potential to engage the attention of students with diverse needs and interests more effectively. Content represented in a range of modes – referred to as 'message abundance' by Hammond and Gibbons (2005) - is potentially also rendered more accessible to learners. The manipulable game pieces, for example, the moveable clause cards, are one example of how students are supported through a multimodal representation of the grammar content. The use of concrete materials to support primary school aged students in developing conceptual understandings is not new, particularly in mathematics instruction, where these concrete materials are referred to as *manipulatives*. Hynes (1986) defines manipulatives as meeting pedagogical criteria that include clear representation of mathematical ideas and appropriateness for students' developmental level, interest and versatility. Because the materials that form the basis of these grammar games meet these criteria, they can be classed as *manipulatives*, although instead of being used to teach knowledge about mathematics, they relate to the teaching of knowledge about grammar and language.

A number of scholars have examined the multimodal nature of classrooms. These include Kress, Jewitt, Ogborn, and Tsatsarelis (2001) who focused on multimodality in the science classroom. Their work argues that learning in the science classroom can no longer be viewed as a process centrally dependent on language, but rather that meaning is made across a range of modes, simultaneously, and that each mode contributes to the overall meaning of the 'multimodal ensemble' of the science classroom. The *affordances* of a range of modes available to students, including speech, image, gesture, action with models and writing, have been explored by Kress et al. (2001) along with the potentials and limitations for representing of each mode to support student learning in the science classroom. The way these modes can work together as an "ensemble" in the science classroom has been extended by Jones (2014) to the teaching of grammar in the primary classroom, who describes "…the careful and purposeful orchestration of meaning-making resources…"(p. 31) by the teacher as a "multimodal ensemble performance". This ensemble of semiotic resources included spoken and written language, gesture, action and colour, and while spoken language was the dominant meaning-making mode, the co-occurrence of other modes acted to support student learning.

The grammar games explored in this study are similarly an *ensemble* of meaning-making modes. This ensemble is both orchestrated through careful design, and spontaneous, as further meaning-making modes emerge through the process of playing the games. The

multimodal nature of these games is described in more detail in Chapter 4, and include manipulatives, written language and colour. Further modal meaning-making resources that emerge spontaneously as students play the games, for example, spoken language, movement, and gesture will be explored through the data analysis process in Chapter 5. The volume of literature relating to the many and varied ways that multimodality has been harnessed as a pedagogical tool in the classroom, for example, gesture and body language (Hood, 2011; Macnaught, 2019; Ngo, 2019), Montessori objects and exercises (Feez, 2019), digital and online texts (Adlington, 2019; Zappavigna, 2012), is beyond the scope of this study. However, there are few studies that address the ways in which multiple modes of representing meaning have been purposefully orchestrated through activities such as playing games, for the purposes of teaching students grammatical concepts. Thus, multimodality as a semiotic resource is an important theoretical lens through which the games-based pedagogical approach to teaching young students about grammar in this study will be explored.

2.6 Conclusion

The review of the literature presented in this chapter has established that some of the key historical developments in grammar instruction over time were based on research that was in many ways flawed and that the failings in the research from this era call for renewed efforts to investigate the classroom possibilities afforded by an explicit approach to grammar instruction. After explaining some significant developments in the ways that children were thought to develop their knowledge about language at school, for example, the emergence of *process-driven* models of literacy, and genre pedagogy, it was argued that the resulting curriculum instability that occurred over time has created a dual challenge for teachers that have been charged with enacting current curriculum content pertaining to the teaching of grammar: first, the absence of a systematic approach to providing teachers with appropriate pedagogical support; and, second, teachers' own lack of grammatical content knowledge due to having progressed through their own schooling during a time when grammar was not being taught, or not being taught well. These challenges highlight the need for research that will support teachers by expanding their repertoire of engaging and appropriate pedagogies for developing students' knowledge about language.

Pedagogical themes that arose from an appraisal of an emerging, contemporary body of research into grammar instruction in schools included the development of metalinguistic understanding and use of grammatical metalanguage, and dialogic pedagogy, and these themes were used to organise the discussion of the literature. What clearly emerged from this discussion was that rich, dialogic interactions between students and teachers, facilitated using a shared metalanguage for talking about language, were successful pedagogical approaches for developing students' knowledge about language in the classroom. Moreover, there are positive affordances for developing students' metalinguistic understanding through pedagogical tools such as the use of a shared metalanguage and dialogic interactions in the classroom. Adopting a functional or meaning-based approach to grammar, where grammar concepts were taught through an embedded or contextualised approach, regardless of whether the grammatical terminology was functional or traditional, was also a common feature of the research reviewed. As the games-based approach to developing students' knowledge about language explored in this thesis uses these same pedagogical tools, for example, dialogic interactions, developing students' metalinguistic understanding, a shared metalanguage and a functional or meaning-based grammar, it warrants being explored further.

However, while the review of the literature revealed pedagogical approaches to grammar instruction in schools that are proving to be successful in some contexts, the capacity of the current body of research to support primary teachers, particularly those teaching grammatical concepts to children in the first few years of school, has been shown to be limited. While it is clear that we are beginning to understand more about how children develop complex grammatical understandings, there is much more work to be done. In particular, the ways in which young students develop very early metalinguistic understandings and the ways in which these can support them to engage with abstract concepts is yet to be explored. While some work has been done to build a framework for mapping how children in upper primary or secondary school might develop their metalinguistic understanding, this framework may not appropriately characterise the trajectory of learning that young students follow. There are potentially intermediary developmental steps in between knowing and understanding a grammatical concept and being able to systematise this knowledge that may have been overlooked, and thus, this study is a necessary addition to the research field.

Finally, the implementation of a games-based pedagogical approach in this research study is one example of an orchestration of metalinguistic, dialogic and multimodal resources, combined with a functional approach to describing language, for the purposes of developing students' knowledge about language in the early years of primary school. While the current available research has begun to address the benefits of using metalinguistic resources such as a shared metalanguage, or the use of dialogic pedagogy in whole class settings for teaching students about grammar, or an embedded functional approach to grammar, to this date, the research base is yet to examine how multiple pedagogical tools, such as those made available to students through the grammar games can be harnessed to work in concert. Furthermore, there are no studies to date that examine how metalanguage, dialogic pedagogy, and a functional approach to grammar can be supported by the multimodal nature of a games-based approach, that makes additional semiotic resources available to students in the form or written and spoken language, manipulatives, colour, movement and gesture. This study, therefore, will address this gap in our knowledge for the purposes of providing pedagogical support for teachers as they set about teaching grammar to students in the early years of primary school.

Chapter 3 Methodology

3.1 Introduction

A review of the literature has demonstrated that historically, research into grammar instruction in schools was characterised by a lack of consideration for the role of effective pedagogy, appropriate methodologies for collecting language-based data and the nature of the grammar being taught. For many years, the ways in which grammar was being taught were not sufficiently examined. As a result, there was an era when grammar instruction was not perceived to be a valuable use of teaching and learning time, often because inappropriate or decontextualised testing measures failed to capture writing development *(Section 2.2).* In contrast, more recent studies have been designed around a contextualised approach to teaching grammar and with a focus on how students might learn about language more successfully, for example, by developing their metalinguistic understanding and awareness, or through the use of dialogic interaction. These studies have explored the impacts of an explicit focus on language and grammar in teaching and learning in the upper primary and secondary years of schooling. Far fewer studies, however, have addressed the potential for developing knowledge about language in the first few years of formal schooling.

As reviewed in Chapter 2, moreover, the literature does not account for the range of pedagogical resources available for teaching students about language, including, for example, developing students' metalinguistic understanding (*2.4.2.1);* dialogic interaction (*2.4.2.2)*; and a meaning-based approach to grammar *(2.4.1)*, and how these might be purposefully harnessed in tandem to support contextualised grammar instruction that is accessible for young students. Since an explicit focus on language and grammar in the early years of school is, and looks likely to remain, a part of the Australian Curriculum and of curriculum documents in other Anglophone countries, as proposed in Chapter 2, there is clearly value in exploring pedagogical approaches to support teachers enacting these curriculums in the classroom.

Because this study is designed to explore how teachers might support students in the early years of school to engage with abstract grammatical concepts through learning and talking about language, it logically follows that the study should be situated in an authentic classroom environment. Furthermore, an exploration of pedagogical tools, the intricacies of

student interactions and evidence of student learning in the classroom will require classroom observations over time, with the researcher immersed in both the classroom practice and the student interactions that arise as a result of this practice.

Therefore, a case study methodology designed around the collection of qualitative data with the researcher as both participant and observer formed the basis of this study. This case study was conducted in a Year 1 classroom in an inner suburban school in Sydney, New South Wales, Australia. In NSW, Year 1 is the second year of formal schooling following the Kindergarten or Foundation Year[2]. The 'early years of schooling' refers to the first three years of school, which in NSW is Kindergarten, Year 1 and Year 2. Although the case study was conducted in a Year 1 classroom specifically, the project aim was designed to meet the needs of very young students, who may be ready to learn about language in Kindergarten, Year 1 or Year 2. Supporting students in the 'early years of schooling' to develop their knowledge about language and grammar, and in doing so, providing teachers with an engaging, age-appropriate and contextualised pedagogical approach was the principal endeavour of this project.

This chapter presents the aims and research questions of this study. An outline of the methodological approach is provided, including a rationale justifying the suitability of this methodology for answering the research questions. A description of the study design, including the case study site, ethical considerations and limitations of the methodology. An outline of the data collection process is provided, including a brief discussion of some of the inherent challenges associated with navigating the dual role of classroom teacher and researcher. Finally, data analysis procedures are documented.

3.1.1. Research aims

The aims of the study are:

- to explore the use of a games-based pedagogy for developing students' knowledge about language and grammar in the early years of primary school (Cochrane et al., 2013);
- to extend understanding of how games may be used as pedagogical tools to support young students' engagement with challenging and abstract concepts such as grammar;

[2] In other states, Kindergarten is referred to as Reception, Transition or Prep.

- to contribute to the ongoing development of theory and practice regarding the effective teaching and learning of a meaning-based grammar in primary schools.

Achieving these aims has the potential to support teachers striving to teach knowledge about language, and especially, grammar in response to new curriculum demands in Australia and other Anglophone countries. These aims are the basis of the research questions the study is designed to answer.

3.1.2 Research questions

Three research questions were developed to address the aims of the study and inform the design of this research.

RQ 1: What kind of dialogic interaction emerges through a games-based approach to developing students' knowledge about language?

RQ 2: How do the multiple semiotic resources of a games-based approach contribute to students' developing knowledge about language?

RQ 3: How can students' metalinguistic understanding be developed through a games-based approach to learning?

At the time the study was undertaken, the researcher was employed full-time as a Year 1 classroom teacher and used this classroom as the site for the study. A qualitative case study methodology was chosen, and this setting determined the parameters of the case with researcher as both participant and observer. Further justification for the appropriateness of a qualitative case study will be outlined in *Section 3.2*. Details of the specific design of the case study, and the data collected to address the research questions, are contained in *Section 3.3* and *Section 3.4*. respectively. A detailed elaboration of the games-based approach employed in this qualitative case study is included in Chapter 4.

3.2 Rationale

In order to navigate the inevitable tensions arising from research carried out by a participant-observer, particularly in a complex classroom setting, the design of the study was partly modelled on an exploratory study by French (2013) of the teaching and learning of functional grammar in a junior primary classroom; a study that provided an example of how

the dual role of both teacher and researcher could be successfully negotiated. The principled and pragmatic reasoning that informed French's (2013) methodological design was similarly used to inform the design of this study, including data collection and addressing the practical limitations and constraints arising from the dual role of researcher and teacher. The following two sections of this chapter *(3.2.1 and 3.2.2)* describe in more detail the appropriateness and necessity of adopting a case study methodology for this research study as well as the suitability of qualitative data collection methods.

3.2.1 Appropriateness and necessity of a case study approach

A case study methodology was chosen as the most suitable approach for carrying out the study. The reasons for choosing a case study methodology included the need to limit the scope of the study and to address the exploratory nature of the research questions, as well as achieving the goal of adding to the types of methodologies previously used to study grammar instruction in schools. Moreover, practical challenges associated with conducting this study were a contributing factor in the decision to adopt a case study methodology.

A case study design, where the case is a Year 1 classroom, was selected for this study in order to provide a manageable scope or frame within which the qualitative research could take place to a level of detail that would be sufficient in answering the proposed research questions. Perhaps in recognition of the complexities of classroom environments, case studies have developed a strong standing in the field of educational research. While case study design has been characterised as a method, a strategy, a genre and an approach, it is generally understood as a means of framing a bounded unit comprising multiple sources of rich data that can be used to capture the complexities of a particular case (Hamilton & Corbett-Whittier, 2013, pp. 8-9). Because this study is investigating rich data emerging from the complex interplay of classroom pedagogy and student interaction, case study design enabled limiting the scope of the study in ways that would be both manageable and allowed for a deep and detailed analysis of the case (Creswell, 2006, p. 78). The bounded unit of a Year 1 classroom comprises the activity of and interaction between the teachers and students participating in the study. Although this unit is shaped by wider factors such as school routines, resources, curriculum and policy, the research questions are primarily concerned with data collected inside this bounded unit, that is, what occurs within the classroom walls while students are playing games that help them to learn about language and grammar.

Quantitative research methods have historically been overly relied upon in the literature related to the teaching of grammar, despite these methods being unsuitable, as discussed in Chapter 2. Case study design has not been used to study grammar instruction until recently, despite case studies having gained a following in educational research as early as the 1970s because of their affordances in developing understandings about the experience of curriculum innovation (Simons, 2009, p. 12). Because this study was designed to remedy failings of earlier studies and to explore a curriculum innovation within the context of the classroom, a case study design for this thesis seemed entirely appropriate.

A further consideration in the decision to adopt a case study design was both the exploratory nature of the research questions, and the fact that the literature to date sheds little light on the nexus between metalanguage, dialogic interaction and other semiotic resources during student gameplay. Case study research is appropriate for the study of social processes in a situation in which there is little knowledge of the phenomenon (Swanborn, 2010, p. 41), which, in this case, is the range of semiotic resources that students may use to develop their cumulative knowledge about language. A games-based pedagogical approach to develop students' knowledge about language is the innovation being examined and explored through this study, which further points to a case study design as being appropriate; a sentiment echoed by French (2013) who also chose a case study design in order to "…examine innovation rather than merely to document existing educational practice" (p. 135).

The choice of case study design to investigate a pedagogy for teaching grammar in the early years also addressed practical challenges. Because the teacher participating in the study was also the researcher, it would have been impractical to conduct research across multiple sites or to establish any kind of randomised study. The use of the researcher's own classroom as the bounded unit for this case, while creating a number of ethical constraints that needed to be navigated *(4.3.3)*, also ensured the accessibility of the case study site and allowed for a high level of flexibility in the data collection process.

Lastly, as this study took place during a time of curriculum change, the pedagogical innovation that forms the basis of this research was one that grew out of a practical need. As a classroom teacher, I was facing a challenge that all Australian primary school teachers were facing at the time: the challenge of enacting new curriculum content that required an explicit focus on language and grammar in the early years of school in such a way that this inherently abstract field of learning could be made meaningful and interesting to young students. In the

role of classroom teacher, I was already invested in exploring a games-based approach to developing students' knowledge about language and so it was both logical and practical that this classroom was chosen as the case study site. A full description of the games-based pedagogical innovation mentioned here can be found in the next chapter, Chapter 4.

3.2.2 Suitability of a qualitative methods

The selection of qualitative data collection methods for this study was made through considering both the nature of the research questions and the kinds of data collected to answer them. The research questions guiding the study required the collection and analysis of data that are inherently messy and complex; data gathered from close observations of young children as they play, talk and learn about something as abstract as language and grammar could be nothing else. The choice between qualitative and quantitative data collection methods, according to Silverman and Marvasti (2008), should both depend on the task at hand and emerge from the research problem. Qualitative method was chosen for this study as the most appropriate for collecting the rich language-based data of classroom interactions as well as for making observations about other semiotic resources that students may use during the learning experience.

Moreover, qualitative methods are suited to studies where researchers are concerned with variables that are either ill-defined, or cannot be controlled, what Greenhalgh (2006) describes as "unchartered territory" (p. 169). In this instance, the dialogic exchanges, metalanguage and other semiotic resources that may emerge through the process of student gameplay are spontaneous and unpredictable in nature and require sensitivity to the richness and variability of the student interactions being observed. Qualitative research can, and does in this study, require the sacrifice of scope in favour of detail, but because the study is concerned with the precise particulars of students' understanding and interactions (Silverman & Marvasti, 2008, p. 14), this sacrifice of scope is justified.

3.3 Study design

This section of the chapter provides further clarification about the case study design, following its selection as the most suitable methodological approach for the study. Justification for the choice of a single case over multiple case study sites as well as the adoption of an embedded case design is provided.

3.3.1 A single embedded case study

Decisions about the structure of the case study design were made on both practical and theoretical grounds. A 'single' case design for this project was selected largely for the practical reasons discussed above; multiple case sites for data collection would have been an impractical choice given the constraints of the researcher's full-time employment as a teacher. Selection of a single case, in this instance also appeared to be theoretically sound. Five possible rationales for selecting a single case study are outlined by Yin (2018, pp. 110-116) and this case falls within what Yin refers to as a "common" case, as it is representative of an everyday situation, or in this instance, an everyday classroom. Here it is worth noting that this Year 1 classroom was part of an ordinary school where the students and their families represented a cross-section of society. Students in the case study classroom were from a range of socio-economic, cultural and language backgrounds and had secured enrolment in this school because of their geographical location in the catchment area. This ordinary Year 1 class in an ordinary government school is reflective of a "common" case as it would be reasonable to expect that there would be many other similar cases. For this reason, this classroom was an acceptable case site for selection as a single case.

The study is a single embedded case study (as opposed to a holistic case study design) as it incorporates a sub-unit of analysis embedded within the case, rather than taking a more global approach to the case analysis (Yin, 2018, pp. 116-120). The focus of this research is not the entirety of the schooling experience of students in a Year 1 classroom, but rather students' specific experiences of learning about language and grammar through a games-based pedagogical approach. Thus, in this instance, the bounded entity that forms the parameters of the data collection within the case is primarily concerned with students as they play games that support them to develop their knowledge about language.

Notably, the games-based approach did not occur in isolation, but instead formed just one part of a broader teaching and learning cycle that integrated a range of curriculum outcomes relating to the teaching of English occurring in the classroom across the course of a school term. For this reason, the boundary between the embedded sub-unit of analysis and the case is permeable (as indicated with a dotted line in Figure 3.1 below). Similarly, this case study of a Year 1 classroom was influenced by the fact that an explicit focus on developing students' knowledge about language was part of the whole school three-year planning cycle and was considered a priority area for the school at the time, and so the boundary between the

case (the Year 1 classroom) and its surrounding context (an inner suburban school) is also permeable as shown again with a dotted line in Figure 3.1 below. So, as it can be seen, while there were clear parameters defining the embedded sub-unit within this case for the purposes of data collection, it should be acknowledged that the reality of this study was that these parameters were not tightly bound. The embedded case study design used successfully by French (2013) had similarly permeable boundaries between the sub-unit, the case and the context of the case.

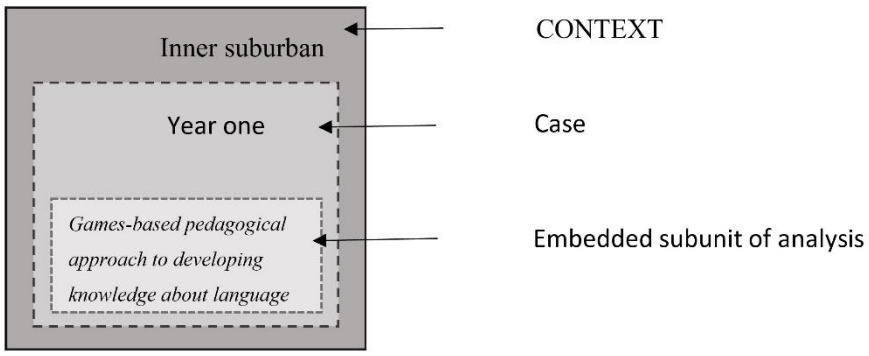

Figure 3.1 Case study design of the project

3.3.2 Description of the case study context

The case study site was an inner suburban school located in Sydney, New South Wales. This school is a public or government-run and funded school consisting of mainstream, mixed attainment classes from Kindergarten to Year 6. With a total school population of around 370 students at the time the study took place, this school was considered a smaller middle-sized school compared to other public schools in New South Wales. The social and economic profile of the school was quite mixed and while the suburb itself was considered an affluent area, and a large proportion of families who had recently bought into the area were quite affluent, many children were from families who had lived in the area across multiple generations when the suburb was considered working-class and so did not share the same economic situation as their peers. The school catchment area includes a public (government subsidised) housing estate and so a small number of students from this housing estate were enrolled in the school. Generally, although it had been labelled as such less than two decades prior, the school was no longer considered to be an area of disadvantage. Families with students enrolled in the school engaged in a wide range of professions with many possessing tertiary qualifications.

The case study school had a proportion (around 45%) of the population who were from families where English was an additional language or dialect (EAL/D), although very few of these students were considered Phase 1 English learners. Most of the students from an EAL/D background possessed a moderate to strong command of the English language and some received specialist support from a funded EAL/D teacher to improve their conversational and academic English skills. While the school served a diverse student population, it was generally considered to be a high achieving setting, with results in the National Assessment Program – Literacy and Numeracy (NAPLAN) consistently performing better than many schools that were statistically similar. The school had a young and engaged teaching staff with a history of university partnerships with educational researchers. In the three years prior to this study taking place, the school had been partnered with researchers in the field of linguistics and grammar education who had been supporting the school in developing teaching and learning programs in response to the curriculum changes that were occurring in New South Wales at the time. The work that forms the basis for this study grew out of this partnership and was supported by school leaders, with high levels of engagement with the work from other teaching colleagues who, while not participating in this study, were using the grammar games in their own Year 1 classrooms as part of their teaching and learning programs.

The Year 1 classroom selected for this case study comprised 22 students, all of whom had turned seven by the time the data were collected for the study. The mix of students in the class was reflective of the general school population as described above. The students in the classroom were socio-economically, linguistically and academically diverse. All students in the class engaged with the games-based innovation during various stages of the study, although it is worth mentioning that two students spent less time in the classroom during the scheduled literacy block as they were newly arrived students who were Phase 1 English learners and were frequently withdrawn for additional language support. Classes at this school were not conventionally named and instead were referred to by the name of the room. For the purposes of this study, the Year 1 classroom in this study shall be referred to as class 1A, because using its name, or a similar pseudonym, may make it too easily identifiable.

3.3.3 Ethics approval

Ethics approval for the study was sought from the University of New England Human Ethics Research Committee and, as required for any research conducted in a New South

Wales public school, through the State Education Research Applications Process (SERAP) of the NSW Department of Education and Training (now the Department of Education (DoE)). The project design and consent forms were approved promptly by both institutions with few minor amendments. [3]

3.3.3.1 Informed consent

In line with ethical requirements, all parents or guardians of student participants were provided with written information outlining the purpose of the study and the nature of participant involvement in the study (see Appendix A). The researcher offered to be available for any additional questions about the study and some parents did seek further information or expressed interest in the aims or outcomes of the study. In all cases, this was done informally at pick up or drop off times on the playground as in this case, the researcher was also their child's classroom teacher and so communication was frequent and often occurred incidentally. All parents or guardians were required to return a signed consent form for their child to participate in the study (see Appendix B). Informed consent of parents was provided for all but one student in the class. This appeared to be more a case of forgetting to return the form, rather than disallowing their child to participate. This child was not identifiable any of the filmed games, their talk was omitted from any transcripts made, no work samples were collected from this child and the child was not interviewed.

Assent was sought from the student participants in the study (see Appendix C), however this process was not without challenges. The most significant ethical consideration for this project was how to ensure informed assent by participants when the researcher was also their classroom teacher. Holding this dual role created a power imbalance between the researcher and participants that needed to be carefully negotiated. Moreover, it was necessary to overcome the problem of giving students the option of consenting, or not, to participate in learning activities that would have been delivered regardless of whether there was research occurring in the classroom. Learning about language and grammar was part of the normally programmed classroom teaching of the English curriculum for these students. Furthermore, a games-based pedagogical approach to teaching this content had been used informally in previous years and already formed part of the established teaching and learning program at

[3] University of New England Human Ethics Research Committee Approval No. HE16-240
State education research applications process (SERAP) Approval No. 2015164

the school. Therefore, consent was not needed for participation in the innovation, as this would have occurred as part of normal classroom teaching and learning.

Students did, however, need to consent to video and audio recordings of their playing grammar games in the classroom, recordings of classroom talk, the collection of work samples and the recording of student interviews. Additionally, students needed to understand that participation in the classroom learning program, including the games, was still generally expected as it formed an integral part of their English and literacy learning activities in the classroom, but they could elect not to be filmed or recorded in any way without consequence and could leave the activity or the classroom (and join an adjacent activity or room) at any time. Ordinarily, as the researcher, I would have explained the study to the students, its purpose, the kind of data to be collected as well as inform them of their right to opt out at any time without recourse. However, the often-pervasive desire of students to please their teacher and to avoid perceived consequences meant that I was no longer an appropriate choice to be providing this information to students. For this reason, a suitable alternative member of the school community was given this role.

Finding a suitable member of the school community to explain the project and the consent process to students proved to be an additional ethical challenge. This challenge was solved by selecting, a non-teaching member of staff, a student learning support officer (SLSO), with whom there was no pre-existing student-teacher relationship, nor did this member of staff play any role in managing the behaviour of any students in the school. This member of staff was well-known to students and often supported them both in the classroom and on the playground, for example, by providing first aid or social support. Following the explanation of the study, students were given an information sheet written in child friendly language to take home and read with their parents or guardians (see Appendix D).

In order to further clarify expectations and options for students, the SLSO explained to students that at any time during the lesson, if they no longer consented either to being recorded or to participating in the games, they could leave the games and join an alternative learning activity. This additional activity was pre-prepared, students were alerted to it as an option during the lessons, easy access to it was provided and students did not have to provide a reason nor would they be expected to enter into any discussion about it after the fact. It is worth noting that none of the students removed themselves from any recording or participation in the games-based learning throughout the data collection period.

3.3.4 Limitations

The study faces several limitations which arise from both the methodological design and the constraints of the scope of the project. The single case study design of this research does not allow for generalisability of the data. Specifically, although the classroom within which this research occurred could be considered representative of a typical classroom within the inner-suburban Sydney area, it is not likely to be typical of a classroom in other areas outside the Sydney metropolitan region. Classrooms in areas outside this region are generally characterised by higher levels of students with English as an additional language or dialect (EAL/D), higher numbers of students whom identify as being Aboriginal or Torres Strait Islander (ATSI), as well as higher numbers of students coming from low-socioeconomic backgrounds. Furthermore, without the use of multiple case study sites to compare data, generalisations drawn from this study are limited and findings are not able to be verified as being able to be replicated. Although multiple forms of data were collected during this study, the small scope of a Masters level research project did not allow for the close examination and analysis of all of the data, which may mean that some findings may have been missed, or unable to be confirmed across multiple data sources. Lastly, as the researcher was also the classroom teacher, researcher bias entering this project was unavoidable. While every attempt has been made to avoid this, it would impossible for the researcher not to apply or act on knowledge of and opinions about students' learning and understanding gained when acting in the role of classroom teacher during the three school terms preceding the commencement of the study.

3.4 Data collection phase

This section of the chapter provides details about the data collection process. Challenges arising from data collection in a classroom case study setting where the researcher is also the classroom teacher are discussed, followed by a description of the types of data collected from within the classroom.

3.4.1 The teacher-researcher: a complex role

Collecting data within a classroom environment can pose challenges. These challenges are compounded when the researcher is also the classroom teacher, responsible for students' learning and behaviour management in addition to researcher responsibilities.

Although my role as a researcher is characterised as a *participant-observer*, the reality of acting as both full-time classroom teacher and primary researcher was far more complex than the label of participant-observer suggests. Although teachers are increasingly expected to collect data and evaluate teaching interventions, this study has demonstrated that careful consideration of how related challenges can be navigated is essential if teachers are to be successful in this endeavour.

An obvious practical challenge of the teacher-researcher role is the need to set up, test and monitor recording equipment while also teaching. This requires a teacher to be in two places at once, while maintaining minimal classroom noise levels so that student dialogue could be heard effectively. Creating an environment where students felt comfortable and were interacting spontaneously was important for the data collection process in this study. Achieving this kind of environment while simultaneously ensuring effective classroom management was not always possible. Students also needed time to become used to the presence of recording equipment in the classroom so it was not seen as a novelty and instead was "part of the furniture" but this step, unfortunately, was not built into the study time frame.

Reviewing the video recordings was an amusing task at times, especially when they included close-up vision of faces with tongues sticking out or dance moves when my attention was elsewhere. At other times, students became shy or cautious, particularly in the first few recordings, during which some of the most articulate students became virtually mute once they knew the recording had begun. It was not until part way into the data collection process that students' awareness of being recorded subsided and a much more natural classroom interaction was captured.

The data collection occurred during the scheduled literacy block, a time most primary schools allocate to the explicit teaching of literacy skills and in the early years one that almost always includes some form of guided reading. During this time students were accustomed to trying to minimise noise so the teacher could read with small groups of students. When the students were set up to be recorded playing grammar games during this time, some appeared to become concerned with appearing on film as 'good' or 'well-behaved' students and so made as little noise as possible thinking that this would please their teacher. Students had to be given permission to talk and interact naturally, as they normally would, when working in small groups during the literacy block time.

Lastly, although the study had the support of school leaders and was viewed positively by colleagues, there was still an expectation that the study should not impact on the day-to-day organisation of the school and nor would my duties as a researcher become a hinderance to performing my duties as a teacher. This meant that no specific allowances for quarantining time were made, as they may have been for a visiting researcher, and many interruptions to the data collection schedule occurred. Frequent scheduling and timetable changes interfered with normal classroom routine. Students were at times withdrawn for various support programs including EAL/D support, occupational therapy or speech therapy. Student wellbeing remained a priority over the research period and, at times, student illness or accident, a challenging social incident, or celebrations such as birthdays or good news needed to become the priority. Classroom environments are generally unpredictable so flexibility and the ability to make last minute adjustments were crucial skills to ensure data collection could continue. Despite these challenges, data collection still occurred mostly as planned and will be discussed in more detail in the next section.

3.4.2 Data collection

Case studies rely on multiple forms of data collection in order to establish a level of confidence that the complexities of a case have been captured and that the conclusions drawn from the research can be supported. So plausible explanations emerging from the data analysis can be cross-referenced against multiple data sources to provide a sense of internal validity, a broad range of data was collected over the duration of the study. Although the scope of the study only allowed for close analysis of one element of the collected data, the data analysis took place within the context of other rich classroom data that were available and accessible to both support and inform conclusions drawn.

Data collection occurred mostly during the literacy block. For a detailed description of how this time was structured, see Chapter 4. Student interviews generally occurred outside the literacy block at times more mutually convenient to both the researcher and the students.

The following forms of data were collected for the purposes of the study:

- video recordings of whole class explicit instruction and plenary discussions
- video recordings of students in small groups playing a range of grammar games designed by the researcher to support and consolidate learning of new concepts

- researcher's observations and notes
- lesson materials including slides that were displayed for students during the lessons and the games themselves
- student writing work samples that emerged during the literacy block as a part of the teaching and learning cycle
- audio recordings of pre and post student interviews that book-ended the data collection period

Although data were collected from multiple sources, the main source of data analysed in order to answer the research questions were the video recordings of small groups of students playing grammar games. This was largely a practical constraint as while the researcher spent a great deal of time understanding the whole data set, and had the benefit of having been the classroom teacher and already well acquainted with all the happenings in the classroom during the data collection period, the scope of the study did not allow for in-depth inspection of all data collected.

There was, however, an opportunity to make connections between parts of the data set and to use these other forms of data as a way of supporting or challenging views formed from close analysis of student game play. It is worth mentioning here, that while the video recordings of students playing games are considered one data source, within this footage there are multiple dimensions to this data that can be considered. Multiple semiotic resources used by students throughout gameplay can be harvested from the footage for further analysis; these include student dialogic exchanges, student metalanguage use, other physical interactions between students including gesture, and the movement patterns of game pieces. In this way, the data set was considered at the macro level to understand the connections between data in the context of the whole teaching and learning cycle, and at the micro level, to understand the minutia of how students draw upon multiple meaning making resources during game play to progress their thinking and understanding.

3.5 Data analysis phase

3.5.1 Critical conversations and learning moments

In order to work with a large quantity of video recordings in a manageable way, a method of identifying which segments of recordings to select for closer inspection and possible transcription and analysis was needed. As the purpose of the study was to explore ways to support students in developing their knowledge about language, it seemed logical to select recordings which show evidence of students developing their understanding of language. Recordings that were most useful in answering the research questions were also selected, that is, recordings that provided examples of dialogic interaction emerging through gameplay, evidence of metalinguistic understandings, or instances of students making use of multiple semiotic resources that appeared to support their growing understandings.

Evidence of students learning occurred during *critical conversations* with their peers where students' thinking was apparent in their talk, or in *learning moments* where students were able to, in some form, *show* that new knowledge was emerging. Initially, each video recording of students playing the games was summarised according to purpose, activity and the main 'gist' of what was happening, including any notable occurrences or points of interest. Two further criteria were applied to select recordings for analysis:

- evidence of student learning and easily identifiable examples of dialogic interaction
- metalinguistic understanding and use of multiple semiotic resources

Video footage that was deemed to be procedural in some way and of little use to the study, for example, equipment testing, setting up games, or dialogic interactions that were primarily turn-taking, were excluded.

3.5.2 Capturing *slices* of the shared learning space

To place student learning at the centre of the data analysis, the researcher used an annotating process, where stills from the videos were annotated to identify semiotic resources students were using to learn about grammar. These resources included students' gaze, gestural actions, movement of game pieces or positioning of game pieces in the shared social space. Annotating the stills in this way provided an important mechanism for capturing and

deconstructing what was occurring within the shared social space of game-play in a way that merely analysing transcribed dialogue could not. An example of an annotated still frame is shown below in Figure 3.2.

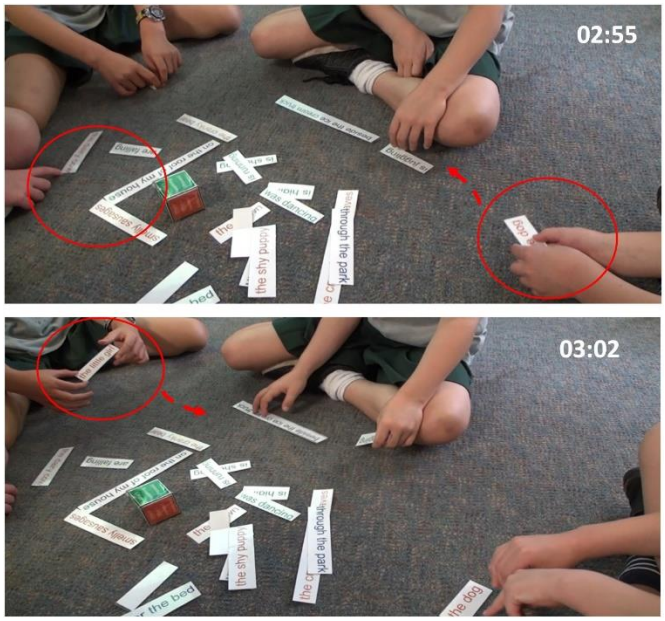

Figure 3.2 Still frames were annotated to identify important gestures, or movements of game pieces

The stills were then sorted according to the relevance of the annotations to answering the research questions. Some were eliminated but this process ensured a there were a variety of annotations across the selection.

Finally, some video excerpts were selected for closer analysis, including small groups of students playing grammar games showing evidence that student learning was occurring alongside examples of student dialogic interactions, evidence of students' developing metalinguistic understandings or instances where students were making use of a range of semiotic resources that had been either designed into the games, or were provoked in some way by student gameplay. This small but varied range of video excerpts was then transcribed for closer analysis.

The decision to keep the selection of video excerpts for transcription limited in this way was a practical one. Transcription of this kind of talk was time consuming and arduous due to the complex nature of the small group interactions. These interactions were more often than not characterised by multiple student voices speaking at once, interruptions and interjections, turn taking, disagreements or heated explanations and the ever-present hum of classroom background noise. This was compounded by the fact that in order to capture the

movement of the game pieces on the floor where the games were played, the camera was angled down at the floor. While this had the added benefit of ensuring that students were not easily identifiable, the challenge of not being able to see the faces of students as they were interacting made it more difficult to decipher and transcribe accurately. The teacher-researcher's familiarity with the students' voices and mannerisms was an asset in this process.

Once a set of transcriptions had been produced, Alexander's Framework of Dialogic Pedagogy (Alexander, 2008b, 2017), specifically, the repertoires of *learning talk,* were used as an analytic tool to identify and categorise types of student dialogic interaction. These interactions were then once again tagged or labelled with evidence of students' metalinguistic understanding or use of a semiotic resource of some kind. Tables of transcribed dialogic interaction that had been analysed according to Alexander's repertoires of learning talk and showed evidence of metalinguistic understanding, alongside annotated still images of students making use of the semiotic resources available to them became the final data set used to respond to the research questions in this study.

3.6 Conclusion

In summary, this thesis uses a single case study to explore how a games-based approach might support young students to develop knowledge about language. While the qualitative case study methodology employed by this research is limited to one experience in one classroom, and as such cannot generate generalisable findings, this study may begin a dialogue about how teachers can support students to grapple with a challenging and abstract body of knowledge such as grammar by engineering engaging learning experiences that provide multiple semiotic resources for students to draw upon, in the context of a larger teaching and learning cycle. Although multiple forms of data were collected for this study, analysis has been limited to transcription of dialogue and still image annotations from a narrow set of *sliced* data in order to make the analysis manageable. Selection of these slices was based on criteria that included the presence of evidence of student learning, dialogic interaction, metalinguistic understanding and students making use of multiple semiotic resources.

Chapter 4 Teaching Year 1 students about the clause: a games-based innovation

A games-based pedagogical approach to developing students' knowledge about language, the innovation at the heart of this research project, is elaborated in this chapter. The place of the games within the existing timetabled literacy block is explained and a detailed description of each game is provided. Finally, this chapter introduces the design elements that are critical to the games' usefulness as a learning scaffold. These include *designed-in* multimodal representations that support student learning, including manipulatives, written language and colour. An explanation follows detailing the ways in which these modes complement each other cohesively to represent content and enhance student learning.

4.1 The structure of the literacy session

The games-based pedagogical approach to developing students' knowledge about language described in this thesis was implemented in the classroom during the normal literacy block. This literacy block was a designated time for explicit teaching and learning about literacy, lasting for two hours and usually occurring four mornings per week. The block consisted of two distinct halves. While all aspects of learning to be literate are addressed across the two-hour period, generally, the first half of the session is more closely aligned to reading skills while the second half is more closely aligned to writing skills. Each of these halves consisted of three stages, as illustrated in Figure 4.1 below.

Firstly, the literacy session commenced with explicit whole class instruction, which included a revision of or link to prior learning alongside the introduction of new knowledge about a particular feature of language, usually contextualised through shared reading of a quality text[4]. This was then followed by a set of small group rotations during which students were either engaged in guided reading with the teacher where the concept would be unpacked further, or where students were engaged in small group tasks that supported and reinforced the new knowledge. It was during the small group rotational tasks that the grammar games were played by students.

[4] A quality text in this instance refers to a literary work for children usually in the form of a picture book, as opposed to a basal or levelled reader that has been written for children to practise decoding.

The first half of the literacy block usually concluded with a whole class plenary session which provided time for reflection on new learning and an opportunity to address any questions or thinking that was proving problematic for students. This plenary session provided the launching place for the second half of the literacy block, usually an explicit writing lesson. The first part of the writing lesson began with whole class instruction that demonstrated for the students how a concept taught in the first half of the literacy session would help them with their writing. For example, if the children had learnt how to identify the material process (represented by an action verb) in a clause taken from a familiar quality picture book by asking the probe question *What's the action?*, they could be shown how to use that same question to help them compose sentences in their own story writing. This was usually followed by a task that would give students an opportunity for consolidation and practice, followed by another plenary session where students could share their written work and when student achievements or misconceptions can be recognised and addressed. A representation of the general structure of the literacy block is shown below in Figure 4.1.

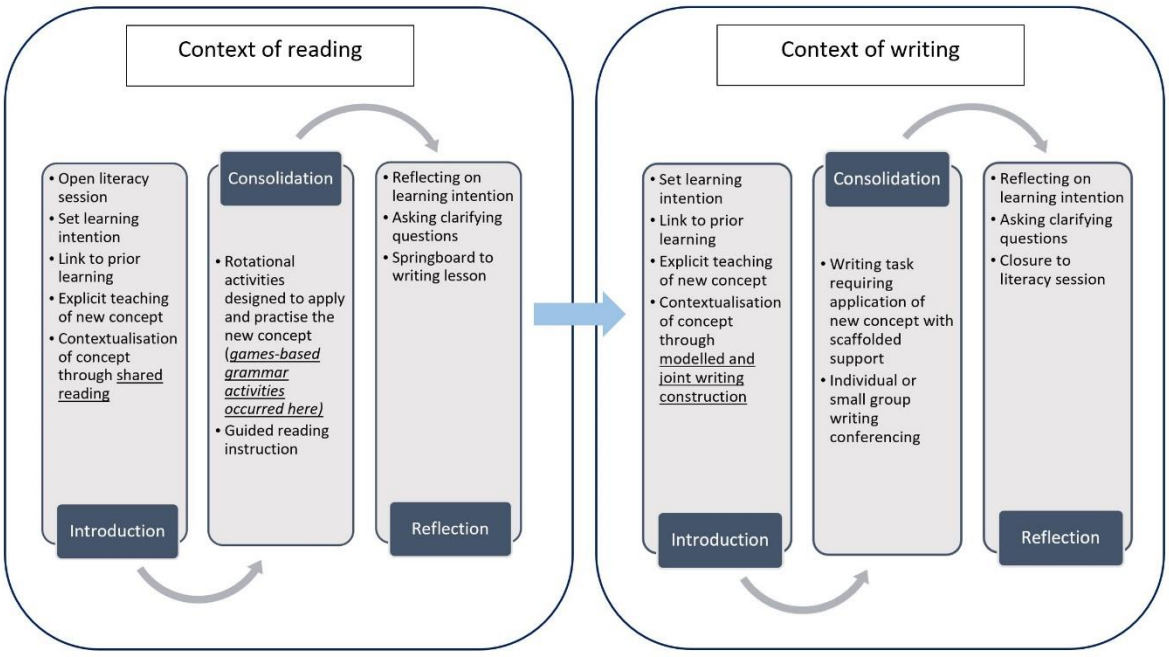

Figure 4.1 A typical literacy session

The possibilities afforded by a games-based approach to teaching students about language and grammar were the focal point of this study. These games were integrated into the existing literacy block structure as described above. Whilst participation and engagement were key to enhancing student learning, of equal importance was the design of the game

components and their arrangement in each game, as well as the way children interacted while playing the games. The games needed to be designed to represent the target content addressed in the introduction session, including quite complex and abstract knowledge about grammar, in a variety of modes (*4.3*). Multiple representations of this knowledge within the games was intended to support children through repeated practise of content they already knew or had just learned in the literacy session within in a shared learning space as they worked towards developing independent knowledge and understandings.

The games-based pedagogy was designed to give students opportunities to practise and consolidate knowledge about language features explicitly taught in the literacy sessions. This knowledge included recognising parts of clauses (verb groups, noun groups, adverbials), naming these parts using functional metalinguistic terms (*Processes*, *Participants*, *Circumstances*), and knowing how to combine these clause parts to make meaningful sentences. The knowledge and terms were first modelled by the teacher and jointly constructed with the teacher's guidance before they were *handed over* to the students in a peer-supported situation.

A brief description of each game that students played in small groups during the literacy sessions throughout the study follows below. These descriptions of the games include their purpose and the *designed-in* multimodal resources deployed in each game, including manipulatives, written language, colour and movement. These resources were intended to support students as they developed their cumulative knowledge about functional parts of the clause. [5]

4.2 Overview of the games

The games themselves were designed to 'exploit the power of talk to engage and shape children's thinking and learning, and to secure and enhance their understanding' (Alexander, 2008a, p. 92). While playing the games, students had opportunities to "engage in conversations that hinged on using grammatical metalanguage ... reuse terminology to clarify, argue and eventually come to a more thorough understanding about the grammatical concepts in a purposeful context" (Cochrane et al., 2013). To play these games, students rely heavily

[5] Descriptions of each game have been adapted from (Cochrane et al., 2013)

on interaction with each other. The games are also designed to increase levels of difficulty gradually. Students were taught to play the games in the sequence they are shown below.

4.2.1 The grammar games

Game 1 – Race to build a clause

To play the *Race to build a clause* game, children use a colour-coded six-sided dice (see Figure 4.2).

Figure 4.2 A colour coded and labelled dice

On each side of the dice is written a question probe for each clause element and a label naming the element's function, as seen in Table 4.1.

Table 4.1 Example of dice for Race to build a clause game

Colour	**Probe**	**Function label**
Two faces of the dice are coloured green.	*What's happening?*	Process (expressed in a verb group)
Two faces are coloured red.	*Who or What is involved?*	Participant (expressed in a noun group)
Two faces are coloured blue.	Extra Information: *When? Where? How? Why?*	Circumstance (expressed in an adverb or adverbial phrase)

In this game, students race to build clauses. They take turns to roll the colour-coded dice with the probe questions and functional labels. After a throw of the dice, each student reads the probe question and label on the up-turned face of the dice. The student then chooses

a clause part to match from a range of laminated card strips (see Figure 4.3) that have been similarly colour coded, each displaying an example of a clause element, for example:

- *was swinging* (colour-coded as a Process/verb group)
- *the monkey* (colour-coded as a Participant/noun group)
- *from the vine* (colour-coded as a Circumstance/adverbial)

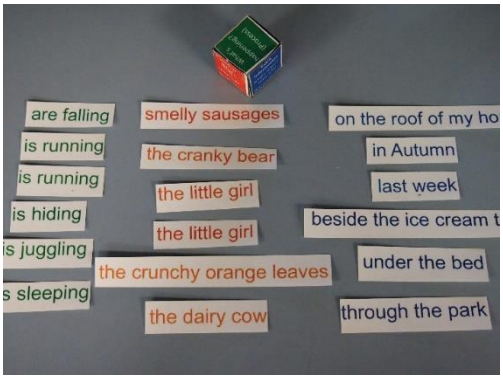

Figure 4.3 The colour coded clause fragment strips

The roll of the dice dictates the function of the clause part (Process, Participant or Circumstance) a student may choose from the array of strips. Students must build a complete clause with at least one Process before they can begin their next clause. The game is designed so that all students develop confidence in manipulating parts of clauses and experience the variety of ways meanings can be re-arranged in clauses and still make sense.

Game 2: Fish or steal

In the *Fish or steal* game, laminated cut-out images of fish are placed on a larger laminated image of a pond. Attached to the back of each fish is a non-colour coded clause fragment, for example, *was painting* or *the old man* (see Figure 4.4).

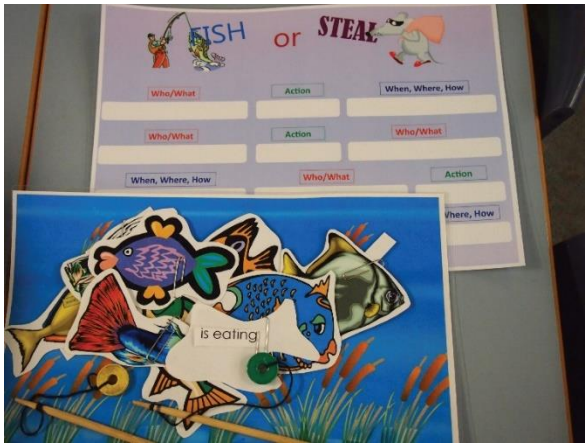

Figure 4.4 Components of the Fish or steal game

Each player has a game board of partially complete clauses with empty spaces denoting missing parts. Each empty space is labelled to show the function of the clause part needed to complete the clause. When students roll *Fish* on their dice, they are required to fish parts of the clause out of the pond and place them appropriately on the game board. Because these clause parts are not colour-coded, there is the added difficulty of having to identify the function of each part before placing it on the board. Students then must read their clause to check that it makes sense.

When students roll *Steal*, they can choose to steal a clause part from an opponent's game board, which adds to the level of engagement. This option also gives students a chance to demonstrate that they know how to complete clauses correctly, without having to rely solely on chance for the right card to turn up. The game board is also structured so that students can only use one Process (verb group) per clause, to reinforce knowledge about this feature of clause structure.

Game 3: Come in spinner

When children play the *Come in spinner*[6] game, they practise differentiating among different types of Circumstances (When? Where? How?). Students use a spinner to determine the type of Circumstance they can choose in order to complete one of the clauses on the game board (see Figure 4.5). Even though students are required to differentiate between Circumstances of time, place and manner in order to play this game successfully, the level of

[6] The term "Come in spinner" is an Australian slang term that refers to a phrase used in the Australian gambling game of two-up, a game only legal on ANZAC Day. "Come in spinner" is the call given by the game manager when all bets are placed, and the coins are ready to be tossed. More generally, the term is used to signify a game or an event is about to commence.

difficulty is limited because all other parts of the clause on the game board are labelled. When creating the game board, Processes in the clauses are deliberately chosen to be compatible with all types of Circumstances, ensuring that students do not encounter any unexpected difficulties when playing the game.

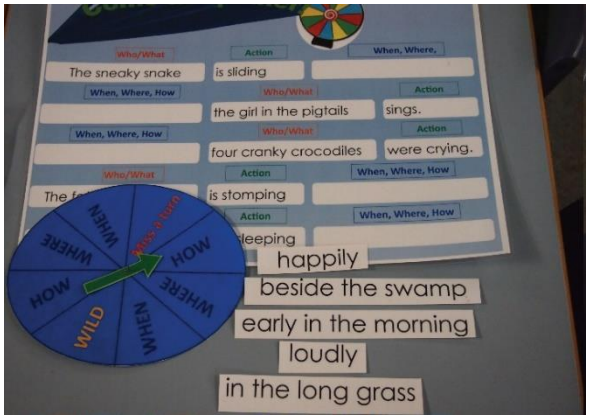

Figure 4.5 Components of the Come in spinner game

4.3 Designed-in multimodal elements of games-based pedagogy

The multimodal elements of the games outlined above were carefully selected so each mode represented the clause functions: colour, question probe, written label and location on the game board. These elements were anticipated to act in support of one another as tools for thinking as young students grapple with grammatical knowledge. The *designed-in* elements - the manipulatives, written language and colour-coding - remained constant every time the games were played. In contrast, the multimodal semiotic resources students use while the games were being played – movement or manipulation of the game pieces, gesture and spoken interaction - were *provoked* by the design of the games. They emerged spontaneously while the children were playing the games and so varied each time the game was played. How the multimodal semiotic resources provoked by the design of the games were used by students to progress their metalinguistic understandings is elaborated in Chapter 5.

Manipulatives

The use of concrete materials to support primary school aged students in developing conceptual understandings is not new, particularly in mathematics instruction, where these

concrete materials are referred to as *manipulatives*. Hynes (1986) defines such materials in terms of pedagogical criteria; that is, a manipulative must clearly represent mathematical ideas, and be appropriate for students' developmental level, interest and versatility. The materials that form the basis of these grammar games meet Hynes's pedagogical criteria so they can be classed as *manipulatives*, although instead of being used to teach knowledge about mathematics, they are designed to teach knowledge about grammar and language.

The manipulatives used in the games (e.g. colour-coded clause fragments, colour-coded dice with metalinguistic labels and probe questions, game board, spinner etc.) were designed to be the focus of the shared interactive social space within which learning happened. They acted as the main catalyst provoking the emergence of other multimodal semiotic resources such as movement, gesture and spoken interaction as students made choices about what to move, where to move it to and for what meaning-making purpose. The manipulatives, which were layered with other semiotic resources, such as written language and colour, offered a mediating tool for the children's thinking, externalising what competent users do with language and supported working memory and recall as well. The intent behind the use of manipulatives in the game design was to allow students to demonstrate their understanding as well as to watch, and to learn from, how the game pieces were manipulated by more knowledgeable peers.

Written language

Written language used in the games can be described as being either *metarepresentational* or *illustrative*. That is to say, the written language can either *represent* or label a grammatical concept or *illustrate* the meaning of the concept. Dice and game boards, for example, are labelled with the metalinguistic terminology, *Process*, *Participant* and *Circumstance*, colour-coded to match the function of each term. The technical labels and colour coding represent the grammatical concepts. These technical labels are then recast as meaning-based probe questions (e.g. *what's happening?, who or what is involved*? or *extra information: when, where, how, why?*). These probe questions illustrate the grammatical concept for the students. The metalinguistic terms together with the probe questions and the colour coding represent the three functional grammar categories used to identify the three main parts of clauses. These three functional grammar categories are illustrated by parts of clauses written on manipulable strips. Each written clause part illustrates an instance of one of the functional categories. Because groups of words, rather than isolated words, are

typically used to achieve each function in a clause, the words written on the strips are organised into groups or phrases. It is worth mentioning here that clause parts used in these games were drawn from literary texts that had been read during prior whole class instruction and were therefore already familiar to the students. Students engaged with written language in the games either by reading the metalinguistic terms and probes to determine which functional category they were thinking about, or by reading the moveable clause parts and determining the functional category each part illustrated.

The written clause parts on moveable strips allowed students to construct and experience language patterns that made sense. Additionally, this afforded opportunities for students to read for meaning and to engage in the repeated reading of familiar text to build fluency. Every time clause parts were moved or rearranged in the game, students reread the resulting clause to establish whether it made sense. There are few such opportunities for repeated reading in a meaningful and engaging context in most classrooms.

Colour

A central design feature of all four games was the colour-coding of clause parts (Processes are colour coded in green, Participants are colour coded in red, Circumstances are colour coded in blue). In her explanation of the origins of this colour-coding system, French (2013) explains that the association of the function of each clause part with a particular colour resonates with sociocultural meanings the colours typically invoke. This colour-coding system has now become a standard in grammar-related teacher professional learning and is increasingly widely recognised by teachers in Australia and internationally.

A particular colour can be associated with any one of the three main types of meaning, or metafunctions: experiential meaning, interpersonal meaning or textual meaning (Kress & Van Leeuwen, 2002). In the games described above, colour-coding was used as a mediating semiotic resource representing experiential meanings, each colour clearly signalling or denoting a grammatical category representing experiential meaning, for example, green denotes Processes.

In Game 1, *Race to build a clause*, clause parts were colour-coded so that when they were arranged to make complete clauses that made sense, patterns for structuring clauses were reinforced. For example, the colour-coding of clause parts reveals that a completed clause has only one Process, or that Circumstances of time, place or manner can be placed at

the beginning or end of a clause and still make sense. Additionally, the colour coding of clause parts in this game allowed students to identify words or phrases that could be used to represent the same functional category. In Game 2, *Fish or steal*, colour was used on the game-board to serve as a prompt to assist students to recall prior knowledge in order to identify the function of a clause part accurately. Game 2 placed a higher demand on students applying their knowledge than Game 1.

4.4 Conclusion

This chapter has provided a description of each of the grammar games that students played during the data collection phase of this study. Moreover, the reasoning behind the designed-in multimodal elements of the games was explained, illustrating how students would engage with each of these elements as well as how these elements were intended to support them as they developed their knowledge about the clause. In the following chapter, the captured video recordings of students playing the grammar games will be explored and these multimodal elements, both designed in (manipulatives, written language, colour) and provoked by design (movement, gesture, spoken interaction), will be linked to evidence of students' developing metalinguistic understandings.

Chapter 5 Data analysis and findings

This chapter presents the data analysis process used for this study and reports on the findings arising from the analysis. The chapter begins by outlining a framework (*Section 5.1*) that provided insights into the trajectory of students' developing metalinguistic understanding; a framework which will then be included in the analytic process. The analysis begins with the selection of transcripts and video stills using the process described in Chapter 3. The selected transcripts were analysed using a multi-analytic tool that revealed instances of students' dialogic interactions, their use of multimodal semiotic resources and evidence of their developing metalinguistic understandings. Still images captured from the video footage are sequenced and annotated to illustrate how students made use of the manipulable game pieces and the shared social space to scaffold their learning. The selected transcripts and stills demonstrate the nature of student learning that occurred within the games-based learning experience. In addition, the still images and transcripts work in tandem to recreate the classroom context for the reader.

The data analysis is organised chronologically around captured learning moments *(Section 3.5.1)*. Each moment is analysed using Alexander's (2017) framework of dialogic teaching *(Section 2.5.3)*, predominantly through the repertoire of *learning talk*. Additionally, these moments have been viewed with the intention of illuminating the kinds of multimodal semiotic resources that students were using within the interactive space. Finally, the learning moments are considered for the information they can provide about individual students' developing metalinguistic understanding. The analysis of each learning moment is supported by a discussion of how the complex interplay of semiotic resources at play within the learning space contribute to building students' knowledge about language.

5.1 Metalinguistic understanding – a trajectory of learning for very young students

This section of the chapter presents a framework for mapping how the very young children participating in this study appear to develop their metalinguistic understanding. The framework has emerged from close inspection of the data set combined with the adaptation of an existing framework (Chen & Myhill, 2016). Later in this chapter, this mapped learning trajectory is applied to students' apparent developments in their metalinguistic

understandings that have been captured in the data set. In doing so, further clarity around the stages that young children appear to progress through as they develop their metalinguistic understanding is achieved.

The proposed framework for the development of metalinguistic understanding draws on Chen & Myhill's (2016) four categories of metalinguistic understanding *(Section 2.4.2.1)* and are listed again below:

- *Identification*: the locating and/or naming of a particular concept;
- *Elaboration*: the elaboration of the concept through explanation or exemplification;
- *Extension*: the stretching of understanding from the concept to its link with writing;
- *Application*: the articulation of how the concept creates meaning in written text. (2016, p. 103)

This thesis proposes two additional stages of learning that the young children in this study appear to progress through as they develop their metalinguistic understanding, thus extending this framework from four stages to six. The first proposed addition, *Awareness,* occurs prior to *Identification* and a further proposed addition, *Organisation,* occurs between *Identification* and *Elaboration.* Although not discussed here as it is outside the scope of this study, it is assumed that *Extension* and *Application* remain as suggested by Chen & Myhill. The proposed framework for mapping students' metalinguistic development can be seen below in Figure 5.1. Each stage of metalinguistic development shown in the framework below is accompanied by an illustrative statement of student activity, written as a learning goal beginning with the stem "*I can… ".* In complimenting the framework with a learning goal in this way, further clarity is provided around what behaviours or activities students may show as they progress through these stages.

It is important here to note that while Chen & Myhill's (2016) framework refers to a trajectory of learning about a 'concept' in broader terms, the framework proposed in this study is limited to how students' develop their understanding about the functional parts of the clause. Applying the proposed framework to other knowledge about language is beyond the scope of this study, although it does warrant further investigation.

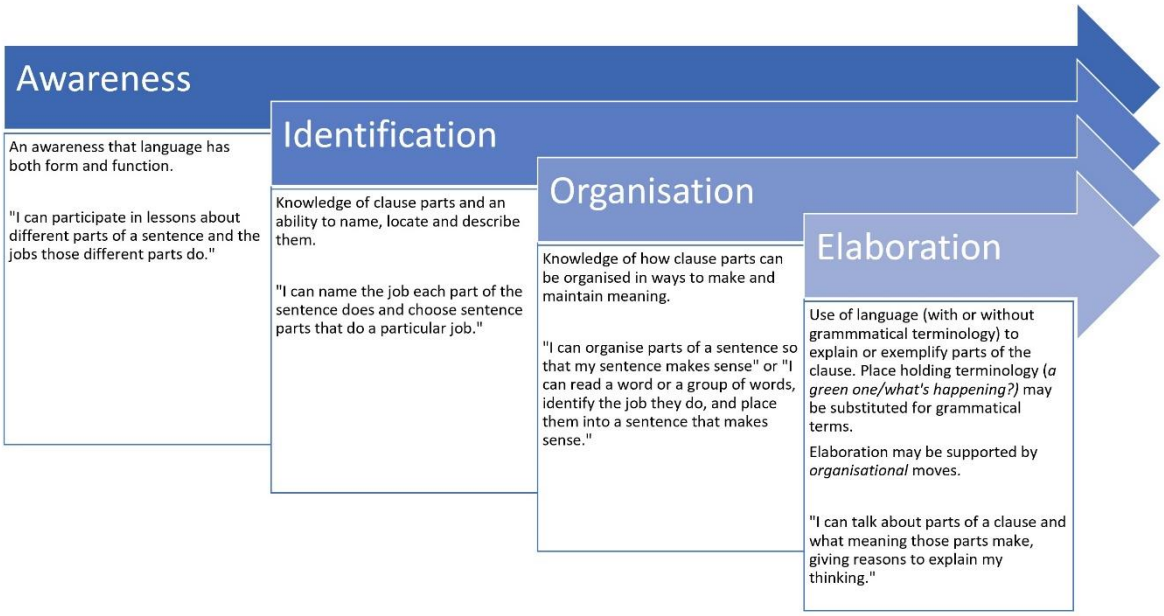

Figure 5.1 A proposed framework for mapping metalinguistic understanding that young students develop as they play grammar games designed to build students' knowledge about the clause.

Chen & Myhill's (2016) four categories of metalinguistic development were devised to map the metalinguistic understanding demonstrated by middle primary and secondary school students as they talked about their writing along a developmental trajectory. This framework, while suitable for the context of Chen & Myhill's study, is not generalisable to the context of this study due to three key contextual differences. Firstly, the participants in this study were not middle years students, but rather Year 1 students all of whom were either 6 or 7 years of age. While older students may have the cognitive and developmental capacity to progress along a trajectory of understanding, building different types of understanding along the way as suggested by the initial four categories, the very young students in this study required much smaller incremental steps to support their developing metalinguistic understanding. A second key contextual difference is that the type of dialogue which emerged during student game-play in this study did not yet relate to how grammatical features are used to make meaning in the students' own written texts, as happened in Chen & Myhill's study. For this reason, the framework proposed for this study does not include the final two categories of metalinguistic understanding used in the original Chen and Myhill framework, *Extension* or *Application*, because these relate to the production of written texts.

Thirdly, and arguably the most salient distinction between Chen & Myhill (2016) and this study is that this study draws on multimodal data that include not just dialogue, but other ways students showed developing understandings, including interactions in a shared learning space and the movement of game pieces depicting clause parts. This has allowed students to demonstrate evidence of their developing metalinguistic understanding and insights into their thinking, in ways that include but are not limited to dialogic exchange.

Nevertheless, similarities exist between the context of this study and the context of Chen & Myhill's study. For example, although the students were not talking about their own writing samples in this study, as they played the games, they were working with the way meanings were made in the written text on the game component pieces. Thus, the focus common to the two studies is students developing metalinguistic understanding as it relates to written texts; but where they differ is that the young students in this study were only just beginning to develop their ability to be independent writers. This difference resulted in *Identification* and *Elaboration* being the most useful categories to apply to the data collected for this study, as will be outlined further below.

The first type of metalinguistic understanding that the young students in this study appear to gain along their learning trajectory is *Awareness.* Before students are ready to engage in further learning about language, they first need to build an awareness that language has both form and function. That is, from the point of view of the child, they need to become aware that language is made of different parts and some of those parts do special jobs to help us understand more about what is going on. This kind of awareness can be likened to someone beginning to learn the piano: the student would first need to be aware that a piano is made of keys, each key makes a different sound and these sounds are used together to make music. Students who do not have an awareness that language has both form and function are unlikely to manage more complex tasks such as naming or locating examples of a concept in written text, in much the same way that a beginning pianist would likely be unable to begin the more complex task of reading music and locating a note, if they have not yet developed an awareness of the role that keys play in creating sound. Students' awareness that language has both form and function, and thus can become an object of study or exploration, was developed through whole class explicit instruction during the introductory lessons of the study. For some students, this increased consciousness about language continued to develop as they were playing the grammar games.

The teacher plays a pivotal role in this initial stage of awareness building, by constructing learning experiences that will draw young students' attention to language and the meanings it can make. Students' successful acquisition of this kind of awareness can be demonstrated through their ability to engage with and participate in lesson activities that are centred around language. As an example, in Figure 5.2 below, as students listened to the teacher reading aloud from a picture book, they were invited to dramatise some scenes with the view of developing their awareness that the written language in the book was used to express things that were happening in the story. Students' attention was drawn to the presence of material, or action, processes (function) expressed in the text as verbs (form), such as *hide*, *float*, or *drift*. By translating processes in the text into physical actions through drama, students began to develop an awareness that particular words or groups of words in a sentence perform the role of expressing *what was happening*.

Figure 5.2 Children dramatising language from a picture book to develop an 'awareness' of language form and function.

In addition to the teacher's selection of classroom activities, constructing lesson goals, or concise explanations of a lesson's purpose written in student friendly language commonly found in primary classrooms, sharing these goals with students and unpacking them together, can also play an important role in developing metalinguistic awareness. A sample lesson goal is *"I can participate in lessons about the different parts of a sentence and the jobs those different parts do."* Note that in this lesson goal the term *sentence*, rather than *clause*, is used because the term *sentence* is more familiar to the student, and so more supportive at this stage

of their development of knowledge about language. Students may not yet have mastered this knowledge, or be ready to use it, but they are beginning to realise that the knowledge is there, and they are embarking on their journey towards learning and understanding it.

The second step in the development of metalinguistic understanding demonstrated by the students in this study aligns with the *Identification* category proposed by Chen and Myhill (2016). This category, used by Chen and Myhill (2016) to denote the first step in developing metalinguistic understanding about writing, involves the ability to locate and/or name a particular concept. In the context of this study, the young children in this study achieved this step when they demonstrated knowledge of clause parts and an ability to accurately locate, identify and describe them; for example, this could involve the ability of students to name the group of words, or noun group, *the cranky bear*, with the functional term *participant* or perhaps with the elaborating language of *who or what is involved*. At this stage of their learning, when students were learning to *Identify* clause parts, they understood the shared lesson goal they were working towards to be something like: *"I can name the job each part of the sentence does and choose sentence parts that do a particular job."*

Once students participating in the study developed their awareness that a sentence was constructed from parts that performed meaning-based 'jobs', they were able to practise and consolidate the important skill of naming those 'jobs' and correctly identifying examples. The games that students played provided repeated opportunities to practise their identification skills, as will be demonstrated later in this chapter.

The third proposed category in the metalinguistic developmental framework proposed for this study represents an additional, smaller increment of learning that students in this study appeared to achieve as they developed their metalinguistic understanding. This proposed category bridges the gap between Chen & Myhill's (2016) categories of *Identification* and *Elaboration* being located between the two. Before students were ready to elaborate a concept through explanation or exemplification, they first showed that they needed to be able to *organise* examples of written language in meaningful and purposeful ways. Hence, the third proposed category in the development of metalinguistic understanding for the purposes of this study is *Organisation.* The students in this study demonstrated that they possessed a deeper understanding of the clause beyond the level of *Identification* but were not yet able to explain or exemplify their thinking dialogically. However, students were able to demonstrate that they have made important steps forward in their metalinguistic

understanding by exemplifying these understandings through the way they showed that they could organise written text in meaningful and purposeful ways.

The grammar games in this study provided opportunities for students to show that they possessed knowledge of how clause parts could be organised and manipulated to make and maintain meaning. In other words, they recognised familiar patterns of meanings (and their graphic representations) of English language. This included the way they moved their own game pieces, or offered game pieces to support the learning of others. As students progressed through the grammar lessons in the classroom, the learning goals that were shared with them became more involved. The whole class instruction, consolidated by playing the grammar games, progressed from identifying and naming clause parts to using or arranging clause parts to make and adjust meanings. The shared lesson goals for students moving beyond identification and towards organisation often would resemble the following:

- *I can organise parts of a sentence so that my sentence makes sense,* or
- *I can read a word or a group of words, identify the job they do, and place them into a sentence that makes sense.*

The opportunity to move physically, to manipulate and to organise written text through the games is demonstrated in this study to hold great learning potential and is an important precursor to the next category of metalinguistic understanding.

The fourth category of metalinguistic understanding proposed in this study is the one used by Chen and Myhill (2016) to describe the ability of students to *elaborate* on a concept through explanation or exemplification. In the context of the games that students played in this study, evidence of *Elaboration* emerged when students used language (with or without grammatical terminology) to think and talk about parts of the clause and how they made meanings. During this kind of elaboration, place-holding terminology, for example, “a green one” or “what's happening?”, was often substituted for grammatical terms, but did not detract from the students’ demonstrated understanding.

Critically, in the multimodal learning space when students played the games, examples of metalinguistic *Elaboration* were not limited to the dialogic space and were supported, or fortified, by *Organisational* moves, as will be demonstrated later in this chapter. Lesson goals that were shared during whole class instruction as the weeks of this study progressed became increasingly complex and reflected the expectation that some

students were progressing their learning to the point where they could explain or elaborate their thinking. Shared lesson goals which emerged towards the latter end of the study, consolidated by more complex grammar games, included: *"I can talk about how parts of sentences make different meanings, giving reasons to explain my thinking".* Achieving the level of metalinguistic understanding articulated in the category of *Elaboration*is not the final destination for students, however, it appeared as far as the grammar games allowed students of this age and developmental stage to progress.

Although during this study students were given opportunities to apply their grammatical understandings to their own writing, and to talk about their language choices in their writing, an analysis of how students' metalinguistic understandings continued to develop into the writing sphere is beyond the scope of this study. While it is possible to assume that the children would eventually continue along the trajectory of metalinguistic understanding towards the fifth and sixth categories proposed by (Chen & Myhill, 2016), *Extension* and *Application*, there may be further critical interim steps necessary for such young students not captured by these two categories alone, a possibility that warrants further exploration. The redesigned trajectory of metalinguistic development described above, from *Awareness* to *Elaboration*, is shown again below in Figure 5.3. This diagram has purposefully included arrowheads to signify that this is not the end of students' metalinguistic development, and that there are likely to be further incremental steps yet to be explored in detail. Moreover, as this proposed framework is specific to how students develop their metalinguistic understanding as they learn about the functional parts of the clause, it cannot be used to generalise how young students develop other kinds of knowledge about language. This would need to be explored further through future research.

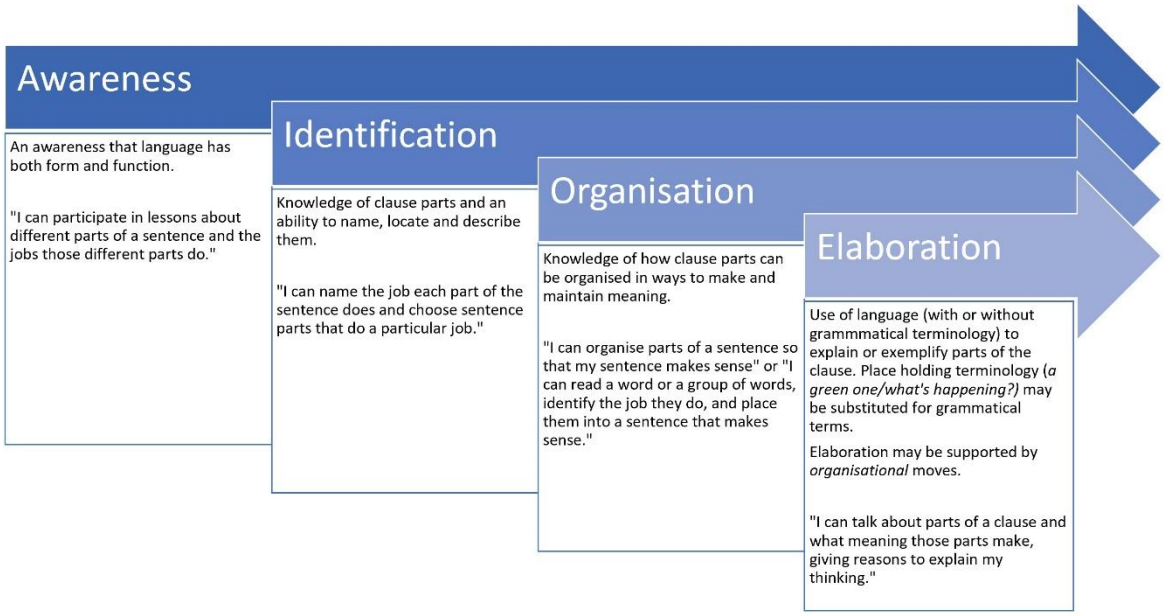

Figure 5.3 A proposed trajectory of metalinguistic understanding that young students demonstrate as they play grammar games designed to build students' knowledge about the clause.

5.2 Critical learning moments

This section of the chapter will begin by identifying critical learning moments *(Section 3.5.1)* that were captured during the data collection process. Each moment will first be considered using Alexander's (2018) framework of dialogic teaching. In addition, the multimodal semiotic resources used by the students within the interactive space during these moments will be identified. Finally, the moments will be viewed alongside the framework of metalinguistic understanding proposed above, together with a discussion of how these learning events demonstrate evidence of where along this trajectory students are functioning.

A transcript of the spoken language through which each critical moment emerged is presented in Tables 5.1 to 5.9. In each table the transcript is located in the central column. The first two columns of each table are used to label the turn, and speaker. Three additional columns are used to identify:

- the type of *learning talk* evident in the transcript,
- the kinds of *multimodal resources* students used to scaffold their thinking, and
- the category of *metalinguistic understanding* demonstrated by the students.

5.2.1 Learning moment one - “I can change it!”

The following interaction (transcribed and analysed in Table 5.1 to 5.3) was identified as a critical learning moment captured during gameplay. This moment was selected because it provides evidence of a breakthrough in two students’ understanding about clause structure. Specifically, Saabi and Maddie both arrived, albeit at different times, at the same realisation: clause parts can be reorganised in a variety of arrangements and still maintain the meaning of the clause. This critical learning moment occurred when a small group of five students were playing Race to Build a Clause (*Section 4.2.1)*. This is the first game played in the learning sequence and one that was designed to consolidate students’ understanding of the clause parts used to compose simple sentences. After students rolled the dice with colour-coded clause part labels (process, participant, circumstance) and corresponding probe questions written on each face, they read the colour-coded label and probe question that came up, and selected a clause part accordingly, that is, a clause part that answered the probe question, and that matched the label and colour coding.

At the point where Transcript 1a (Table 5.1) begins, the five students had each had several turns at playing the game. Their clause pieces were on the floor in front of them and with some good-natured competitiveness, they were hoping to be the first to complete their clauses. Table 5.1 illustrates how physical manipulation of the clause cards during the game supports dialogue, which in turn builds new understandings about how parts of the clause can be arranged in different ways and still make meaning. The annotated screen shots below in Figure 5.3 are also used to illustrate how physical manipulation of the game mediated the students’ learning.

Learning moment one – Transcript 1a

During the game, Saabi formed the incomplete clause 'last week the dog _____ on the roof of my house' and had verbally indicated she was waiting for her next turn in order to pick up the process 'was dancing' to complete her clause.

Table 5.1 Learning moment one, transcript 1a analysis

Turn	Spkr	Transcript 1a	Type of *Learning Talk* (Alexander)	Supportive multimodal semiotic resources	Category of metalinguistic understanding
1	Saabi	Imagine if I did this!	*Speculate* and *imagine*	*Physical manipulation* [moves 'on the roof of my house' to start of clause]	
		[reading aloud] ON THE ROOF OF MY HOUSE LAST WEEK THE DOG [pauses to think] WAS DANCING			
		[Exclaims] I can change it!	*Narrate*		*Organisation*

As students played the games, it became apparent that they were engaging in *learning talk,* as described by Alexander. Each learning talk element played an important and distinct role in the students' learning. In other words, the games acted as a scaffold through which the students, during their interactive talk, were learning more about language. In this example, Saabi drew on her repertoire of learning talk to imagine or speculate about a new possibility, *"Imagine if I did this!",* and created the space within which exploration could occur (by moving the card pieces). By narrating her actions and the subsequent realisation, *"I can change it!"*, she affirmed her breakthrough and drew the attention of her peers. This became an important moment in their learning too, when, as we shall see later in Table 5.2 (Transcript 1b), Saabi's peer, Maddie, attempts to replicate with her own clause parts Saabi's breakthrough in thinking.

The possibilities afforded to Saabi through the physical manipulation of the clause parts was crucial in allowing the breakthrough seen in Table 5.1 to occur. Throughout the recorded games, as students physically manipulated parts of clauses, they spontaneously

began describing their actions, in similar fashion to Saabi. These descriptions became a bridge that led students towards talking about language and clause structure in more abstract and sophisticated ways. Figure 5.4 below shows the moment Saabi makes the breakthrough in her thinking. In the first frame, Saabi is studying her clause pieces (represented with a yellow eye to denote visual focus). Immediately after exclaiming *"Imagine if I did this!"*, she experiments with her thinking by moving the clause part from the end to the start of her clause (as shown in red). The second frame shows how Saabi's speculative talk gains the attention of the student to her right, who moves closer to Saabi, closing the gap between them and leaning forward to listen as the reorganised clause is read aloud. This reveals the shared social space and interaction within which this learning event is occurring. Notice how Saabi is finger pointing to help her track as she reads her clause aloud. Participation in these games also gives students opportunities for repeated reading practice to develop fluency and improve decoding skills in a meaningful and engaging context.

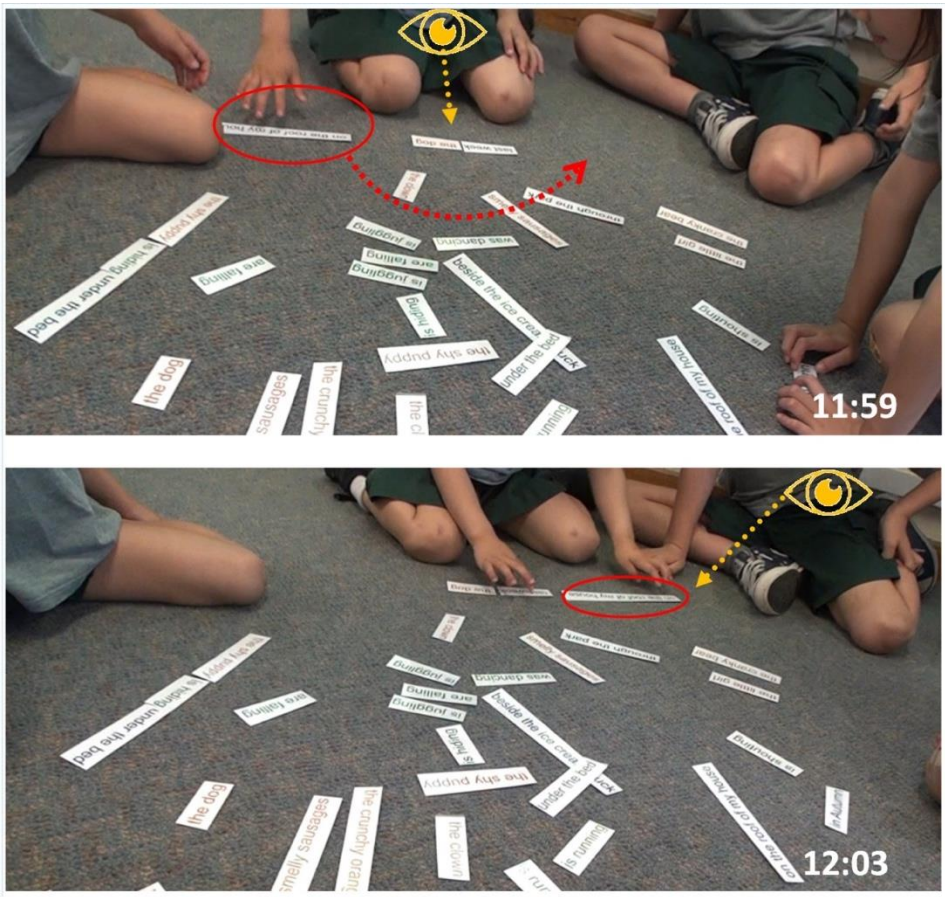

Figure 5.4 Physical manipulation of clause parts supported a breakthrough in Saabi's understanding of clause structure.

A successful turn in this game, where a student had rolled the dice, read the prompt and then correctly chosen a corresponding clause part to add to the clause they were building in front of them, was evidence that students' metalinguistic understanding was functioning at either the level of *Awareness* or *Identification* – the earliest categories in the framework. Some students still in the awareness stage appeared to rely heavily on matching the coloured prompts on the dice with the corresponding coloured clause parts, without attending to the written probes or labels, demonstrating they were not yet at the stage where they were locating or naming the clause parts. Nevertheless, the colour-coding support allowed them to participate in the group setting and learn from their peers, an important feature of the game design.

Other students modelled behaviours of identification, such as describing the clause part they needed to complete their clause (with or without the use of the correct terminology) and correctly identifying one in the pile that they could select in their next turn. Saabi's critical learning moment above (Table 5.1 and Figure 5.5) is evidence of her moving past *Identification* and towards *Organisation,* through her realisation (following some experimental physical manipulation) that her clause parts could be organised in a new way, while still maintaining meaning.

Saabi's learning moment had consequences for the other students in the group. In Figure 5.5 below, the first frame shows Maddie, who was sitting on Saabi's right, shift her attention away from her own clause parts and towards Saabi as she reads her newly arranged clause. As seen in Table 5.2 (Transcript 1b) below, Maddie then says, *"Oh yeah!"* and then turns back to her own clause parts (see second frame, Figure 5.5) to attempt to apply this new discovery to her own clause, narrating her experience aloud for the group as she went.

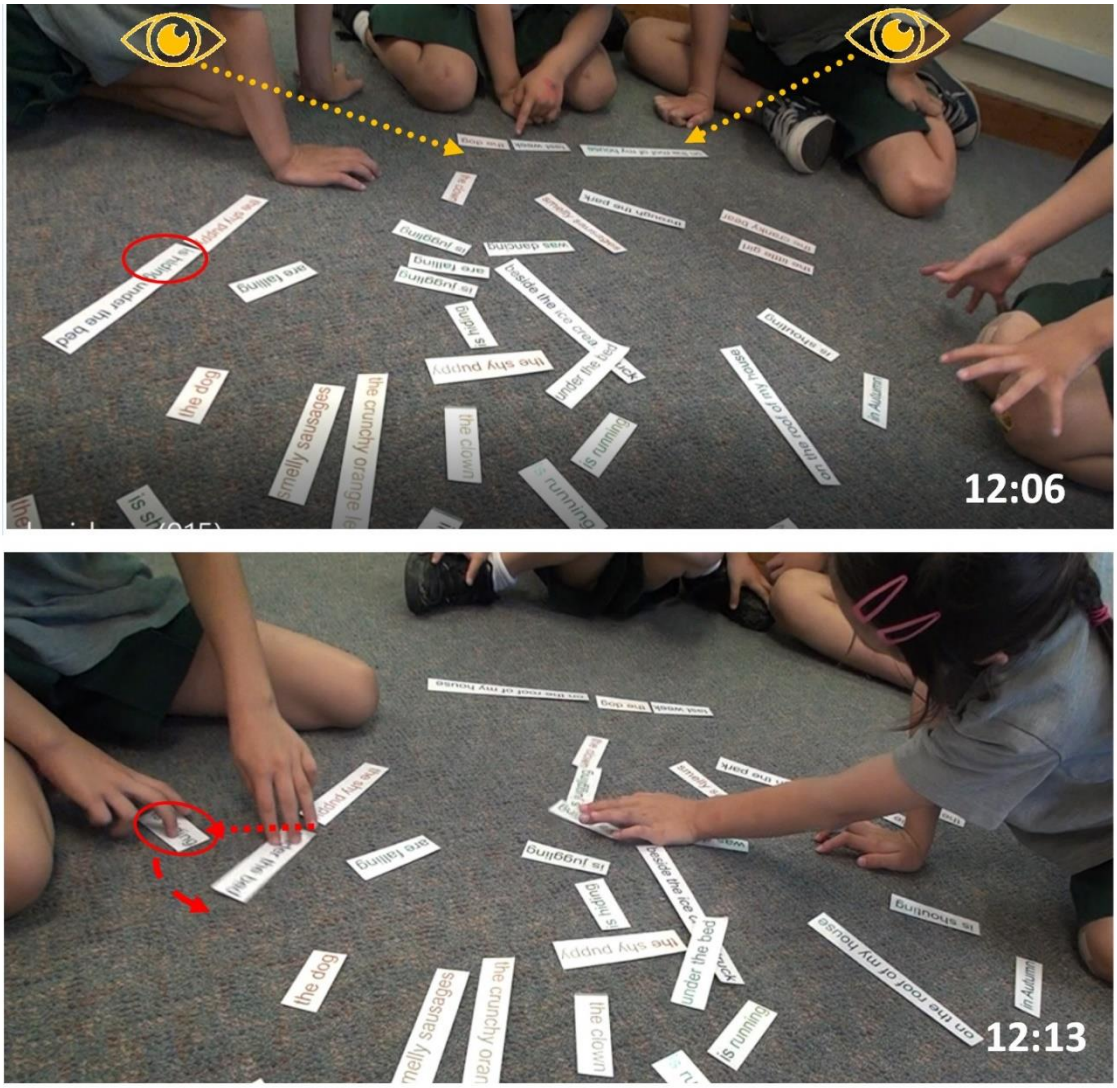

Figure 5.5 Maddie observes Saabi's breakthrough and attempts to replicate it with her own clause.

Learning moment one - Transcript 1b

Maddie, who has composed the clause 'the shy puppy/is hiding/under the bed', watched Saabi and realised she could rearrange parts of her clause, and so she experimented with rearranging the parts of her own clause.

Table 5.2 Learning moment one, transcript 1b analysis

Turn	Spkr	Transcript 1b	Type of *Learning Talk* (Alexander)	Supportive multimodal semiotic resources	Category of metalinguistic understanding
1	Saabi	[Exclaims] I can change it!	*Narrate*		*Organisation*
2	Maddie	Oh yeah!	*Listen* *Think about what they hear* (Conditions for Learning Talk)	*Spoken Interaction* [listened to and observed peer] *Physical manipulation* [rearranges own clause to place the process at the end of the clause]	
		[reads aloud] THE SHY PUPPY UNDER THE BED IS HIDING	*Narrate* *Explore*	*Physical manipulation* [rearranges again to place the circumstance at the front of the clause]	*Organisation*
		[reads aloud] UNDER THE BED THE SHY PUPPY IS HIDING		*Physical manipulation* [rearranges again to place the process after the circumstance]	
		[reads aloud] UNDER THE BED IS HIDING THE SHY PUPPY			

As this transcript shows, Maddie too engages in learning talk. As she reads aloud her new clauses, she *narrates* her choices for the group. This process of reading the new clauses aloud also enters Maddie's thinking into the social space for consideration by others. Thus, this talk acts to *explore* a new idea that has not yet been confirmed. Maddie drew on the dialogic interaction occurring in the group space as a semiotic resource, by listening to and observing her peer and then thinking about this new information. *Listening* and *Thinking*

about what they hear are described by Alexander (2018) as two conditions or capacities that students need to develop to allow learning talk to occur and to take full advantage of the possibilities this repertoire has to offer (p. 8). Physical manipulation of the clause parts was an additional semiotic resource that Maddie used as she developed her understanding that clause parts could be arranged in different ways. Like Saabi, Maddie moves past *Identification* and towards *Organisation* in this critical learning moment, through her realisation that her clause parts could be organised in a new way, and still maintain meaning.

The moments following Maddie's breakthrough are quite interesting. As shown in Table 5.2 (Transcript 1b) above, the third iteration of Maddie's clause reads 'Under the bed|is hiding|the shy puppy'. Upon composing a third clause that did not make sense to her, Maddie sought some feedback from the group as she repositioned her clause in the shared learning space. She attempts to gain the attention of her peers in two ways. Initially, after reading her clause aloud and receiving no response, Maddie exclaims "I know!" and then repeats her clause aloud again. After another unsuccessful attempt to gain the attention of the group to receive feedback, she then resorts to movement, placing both hands on the clause pieces and pretending to shuffle and move them around at speed, in an effort to gain attention (Figure 5.6).

Figure 5.6 Maddie pretends to shuffle her clause pieces around to draw attention before returning them to the same position to seek group feedback.

After pretending to shuffle the pieces around, Maddie returns them to the same position and then points to and reads out her clause for a third time until, finally, she receives a response from another member of the group, as shown in Table 5.3 (Transcript 1c).

Learning moment one - Transcript 1c

Maddie seeks the attention of her peers to support her thinking using movement and gesture, until she finally receives a response.

Table 5.3 Learning moment one - transcript 1c analysis

Turn	Spkr	Transcript 1c	Type of *Learning Talk* (Alexander)	Supportive multimodal semiotic resources	Category of metalinguistic understanding
1	Maddie	[reads aloud] UNDER THE BED IS HIDING THE SHY PUPPY	*Narrate*		
		[pauses] [exclaims] I know!			
		[reads aloud] UNDER THE BED IS HIDING THE SHY PUPPY	*Narrate* *Question*	*Movement* [moves cards around on carpet trying to draw attention to them] This gesture asks an unspoken question.	
		[reads more loudly] UNDER THE BED IS HIDING THE SHY PUPPY	*Narrate*		
2	Altai	That makes no sense though!	*Argue*		*Organisation*
3	Maddie			*Physical manipulation* [silently begins rearranging clause cards around again]	
4	Teacher	[re-joining small group] What doesn't make sense?	Repertoire 5: *Questioning – open.*		
5	Altai	Under the bed…wait…			
6	Teacher	You're doing lots of moving there Maddie. What did you come up with?			
7	Maddie	So, you can change some of them. [reads aloud] UNDER THE BED IS HIDING THE SHY PUPPY	*Explain*	*Physical manipulation* [Moves clause cards back to the arrangement that has been disputed]	*Organisation*

Turn	Spkr	Transcript 1c	Type of *Learning Talk* (Alexander)	Supportive multimodal semiotic resources	Category of metalinguistic understanding
8	Teacher	Oh can you change it that way?	Repertoire 5: *Questioning – open.*		
9	Maddie	Or you can change it to…		*Physical manipulation* [Moves clause cards to a previous arrangement that made sense to her]	

Altai realised that Maddie had failed to rearrange the parts of her clause in a way that made sense to either of them. By overhearing Maddie's narration out loud, being drawn into the learning space by her exaggerated movements and interjecting at that moment to disagree (Turn 2), Altai started a discussion about ways clause parts could or could not be rearranged so that it made sense. From across the room, I overheard Altai's exclamation and re-joined the group to explore the learning moment that was happening. In hindsight, I would have liked to have known what would have transpired between the students in this group without my interference. When I questioned Maddie about third arrangement, she quickly moved the pieces back to an arrangement that she felt confident was correct, perhaps as a way of demonstrating that she was being successful.

Thus, Table 5.3 (Transcript 1c) demonstrates further examples of learning talk that have arisen during game play, and notably in one instance, the dialogue is not supported by, but instead replaced by the physical movement of the clause cards which serves to ask an unspoken question to the group. When Altai interjects with "*That doesn't make any sense though*", he demonstrates that he too has moved past the stage of simply identifying or locating the concept, and is instead demonstrating that he is beginning to think about how the organisational structure of the clause can affect meaning. Maddie uses talk to *explain* her discovery: *"So, you can change some of them"*. She then confirms that she has moved from experimenting with an idea after observing her peer do it, and now possesses this knowledge and feels confident in using it.

5.2.2 Learning moment two - “It doesn’t make sense!”

Learning moment two (Table 5.4 to 5.7) captures a different group of students as they played the same clause building game as above. Not all critical moments indicate breakthroughs in learning, some reveal the challenges of the activity for some students. Here, some of the students were having difficulty playing this game independently and so received teacher support through their first few turns. Because the teacher entered the dialogic space, a more varied repertoire of dialogic turns was used. This is reflected in the coding of the transcriptions against Alexander’s framework of dialogic teaching. Against this framework, turns in this interaction drew from repertoire three (*Learning talk*), repertoire four (*Teaching talk*) and repertoire five (*Questioning*), as coded in column four of Tables 5.4 through 5.9.

Transcript 2a (Table 5.4) provides insight into the challenges a student can face when unable to progress metalinguistic understanding to a level categorised in the framework as O*rganisation.* It is also an illustration of how the clause card pieces in the games can be used by group members to support each other. In this sequence, Abbi has a circumstance in the form of an adverbial phrase on the floor in front of her that reads ‘beside the ice cream truck’ and on her next turn, she rolls a process in the form of a verb. Despite trying multiple processes to start building her clause, and experimenting with the order of her clause parts, Abbi was convinced that the sentence was incorrect because it did not yet make sense. Her frustration was obvious, *“It doesn’t make any sense!”*. This frustration was made more apparent as she continued to try, and then discard back into the pile, different processes. Abbi did not recognise that the clause was merely incomplete, missing the necessary participant for it to make sense, suggesting her level of metalinguistic understanding at this moment had surpassed *Awareness* but was not yet comfortably at *Identification*, because she still relied upon colour as a semiotic resource to support her as she played the game. As Abbi continued to try out different clause parts, she knew to select green ones as they matched the colour on the face of the dice; however, it was clear she did not yet understand that green was representative of what was happening in the clause. She was not yet successfully identifying and locating the concept in question, in this case, the process within a clause.

Learning moment two - Transcript 2a

Abbi has one clause part in front of her beside the ice cream truck and on her next turn, rolls the dice and it lands on a process.

Table 5.4 Learning moment two - transcript 2a analysis

Turn	Spkr	Transcript 2a	Dialogic Interaction *Learning Talk (LT) Teaching Talk (TT) Questioning (Qu)*	Supportive multimodal semiotic resources	Category of metalinguistic understanding
1	Abbi:	[rolls dice] Green.			
		It doesn't make any sense!		*Physical Manipulation* [picks up and experiments with different green process cards] [places 'was dancing' next to 'beside the ice cream truck'] *Colour*	*Awareness*

The teacher then commences a *dialogue* with Abbi to support her further by asking open questions with the intention of probing or developing her thinking: *"What's wrong with it?", "Ahh it doesn't make sense yet…what's missing?"* (Table 5.5, Transcript 2b). It is at this point, that one more semiotic resource is made available to Abbi. The question from the teacher initiates gestural movements from another student in the group, Olive, who attempts to support Abbi by silently pointing to and tapping on the participant cards within her reach (Figure 5.7). Although Olive was not prepared to verbalise her thinking, through gesture she was able to both support her peer and demonstrate that her metalinguistic understanding was at the level of organisation; she understood the missing element of the clause structure required to make meaning. Abbi, having not yet progressed to organisation, was unable to see this as a solution to her problem.

Learning moment two - Transcript 2b

Abbi continues to have difficulty taking her turn and choosing a process to go with 'beside the ice cream truck'. Teaching talk and a supporting semiotic resource of peer gesture are used to try to help progress Abbi's thinking.

Table 5.5 Learning moment two - transcript 2b analysis

Turn	**Spkr**	**Transcript 2b**	**Dialogic Interaction** ***Learning Talk (LT)*** ***Teaching Talk (TT)*** ***Questioning (Qu)***	**Supportive multimodal semiotic resources**	**Category of metalinguistic understanding**
1	Teacher	What's wrong with it? What does it say so far?	*TT – Dialogue* *Qu – Open/ Probe*		
2	Abbi	It says, BESIDE THE ICE CREAM TRUCK [returns 'was dancing' to the draw pile]	*LT - Narrate*		
3	Teacher	What was the one you had there before? What does it say?			
4	Abbi	[takes 'was dancing' from draw pile and places next to 'beside the ice cream truck'] It says… was… BESIDE THE ICE CREAM TRUCK WAS DANCING It doesn't make sense!			
5	Teacher	What if you moved it to the front? What would it say then?	*TT – Dialogue* *Qu – Leading*		

Turn	Spkr	Transcript 2b	Dialogic Interaction ***Learning Talk (LT)*** ***Teaching Talk (TT)*** ***Questioning (Qu)***	Supportive multimodal semiotic resources	Category of metalinguistic understanding
6	Abbi	[reads aloud] WAS DANCING BESIDE THE ICE CREAM TRUCK		*Physical Manipulation* [moves 'was dancing' and places it in front of 'beside the ice cream truck']	
7	Teacher	Ahh it doesn't make sense yet... what's missing?	*TT – Dialogue* *Qu – Open/ Develop*		
8	Olive			*Gesture* [Olive attempts to support Abbi] [Silently points to and taps the participant card SMELLY SAUSAGES] [Silently points to and taps the participant card THE DAIRY COW]	*Organisation*

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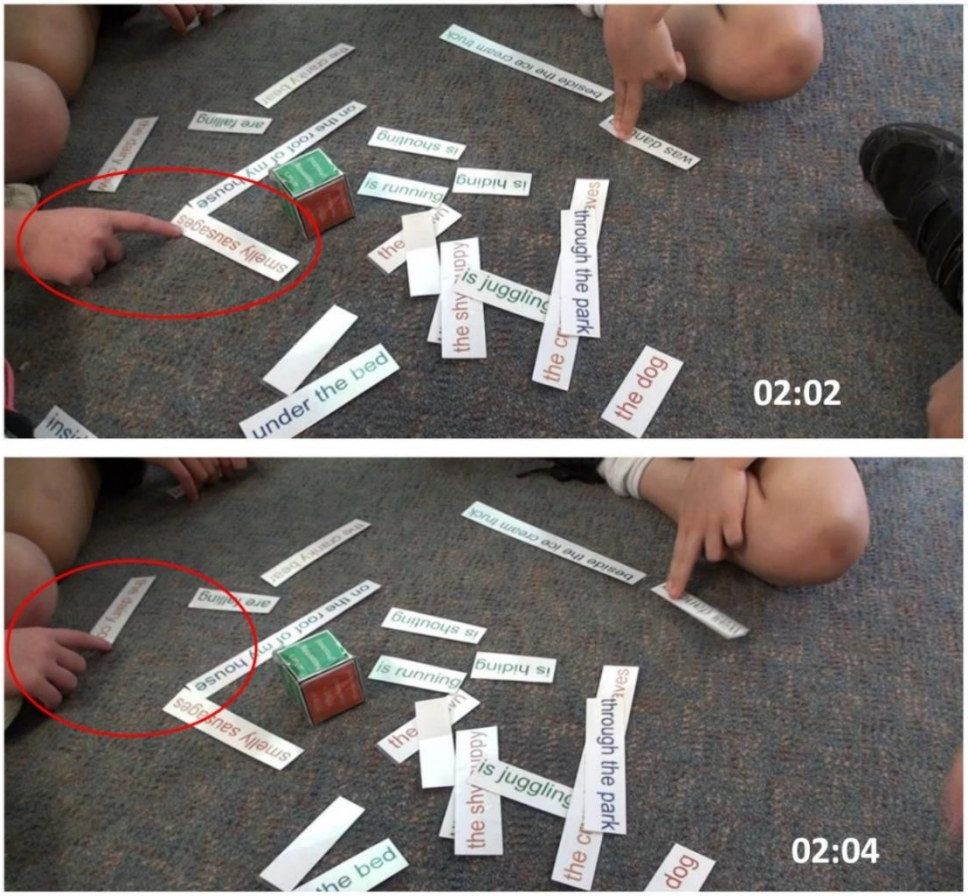

Figure 5.7 Olive points to participants on the carpet in an attempt to help Abbi identify the missing structural element of her clause.

As this sequence progresses in Table 5.6 (Transcript 2c), Abbi's peers then draw on learning talk to *explain* how this problem could be solved and use *movement* of the clause parts to illustrate their point. In the transcript, Sean was able to identify the problem of the missing participant and explain, using an elaborated example, how this problem could be solved: *"Yeh, for example, if you like, put 'the dog' there that I've got… Then it would be like 'the dog is juggling beside the ice cream truck'* ". In this way, Sean contributes to moving forward the learning of Abbi and the other students in the group, and, thus, demonstrates his metalinguistic understanding has moved beyond *organisation*, as unlike Olive, who was only able to point to the missing clause part, Sean provided an *elaboration* that explained his thinking. Immediately afterwards, Kiera, another member in the group builds on Sean's explanation with "Yeh, like I've got 'the little girl'", and holds up her clause card for Abbi to see.

Learning moment two - Transcript 2c

As Abbi continues to have difficulty taking her turn, her peers explain and provide examples for how she can solve the problem of her clause not yet making sense.

Table 5.6 Learning moment two - transcript 2c analysis

Turn	Spkr	Transcript 2b	Dialogic Interaction *Learning Talk (LT)* *Teaching Talk (TT)* *Questioning (Qu)*	Supportive multimodal semiotic resources	Category of metalinguistic understanding
1	Abbi	[reads aloud] IS JUGGLING BESIDE THE ICE CREAM TRUCK [tries to return 'is juggling' back to the pile]			
2	Teacher	Keep it there Abbi, because if you get something else to add more information to that sentence, it might make sense later.	*TT – Instruction/ Exposition*		
3	Sean	Yeh, for example, if you like, put 'the dog' there that I've got… Then it would be like 'THE DOG IS JUGGLING BESIDE THE ICE CREAM TRUCK'	*LT - Explain*	*Movement* [holds and offers his participant card to go with Abbi's clause] *Spoken Interaction* [Abbi listened to explanation from her peer]	*Elaboration*
4	Kiera	Yeh, like I've got 'THE LITTLE GIRL'	*LT - Explain*	*Movement* [holds and offers her participant card to go with Abbi's clause] *Spoken Interaction*	*Organisation* *Elaboration?*
5	Abbi	Oh…			

Sean and Kiera's use of movement as a semiotic resource to support Abbi can be seen in Figure 5.8 below. In the first frame, Sean is seen offering *'the dog'* to Abbi while he gives his explanation. Interestingly, Olive has again pointed to '*the dairy cow'* to help Abbi, but elected not to participate in the dialogue. In the second frame, Kiera can be seen offering '*the*

little girl' to Abbi. Although Kiera offers her card as an example for Abbi, it is unclear whether she could have offered an elaboration like Sean did, or if she remains at the level of organisation.

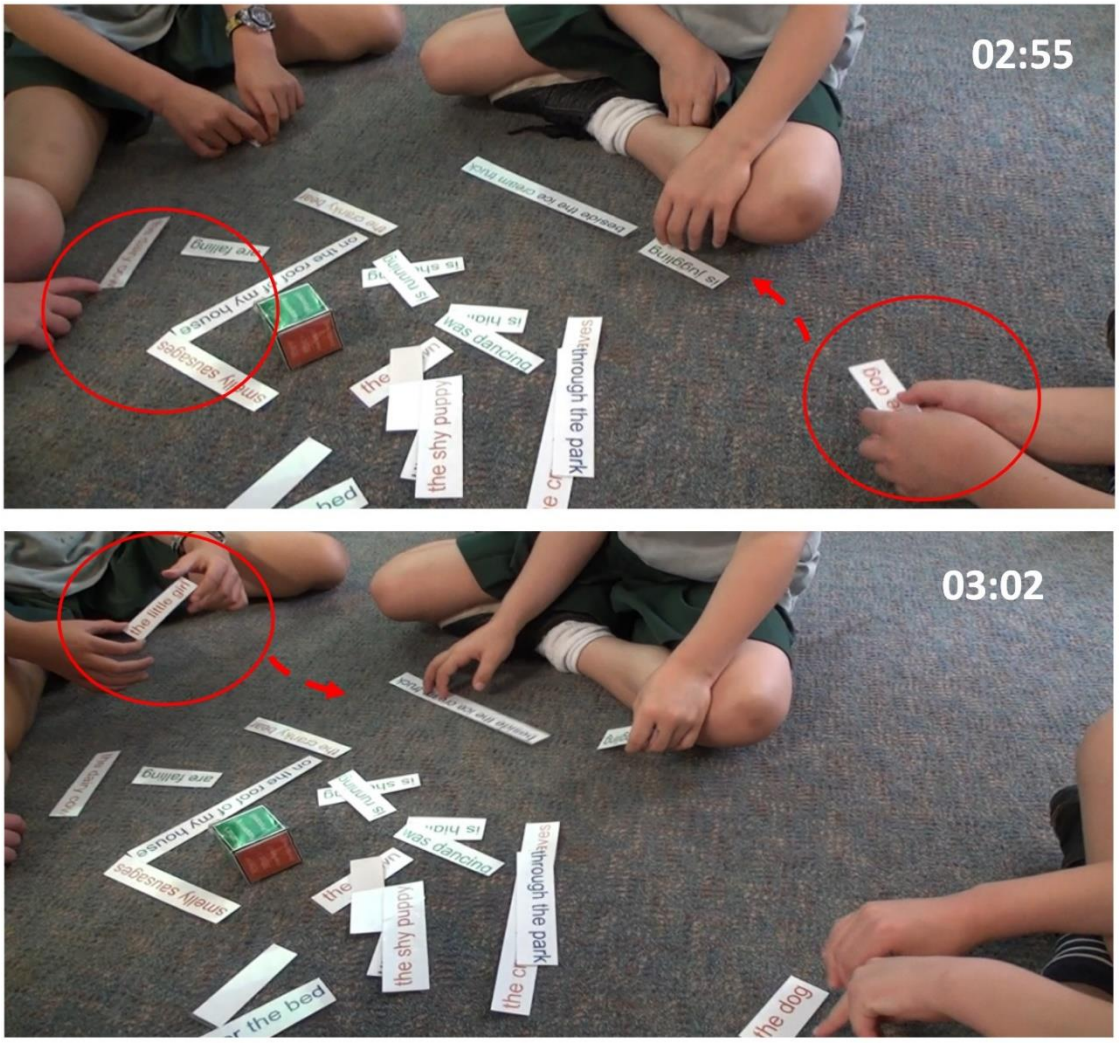

Figure 5.8 Peers in the group use learning talk, movement and gesture to support Abbi's thinking.

In the next transcript (Table 5.8, Transcript 2d), after a few more students in the group had taken their turn, another incomplete clause created an opportunity for talk. In this instance, Natasha had a participant, *the clown,* and a circumstance, *inside his dark cave¸* and was holding the two clause parts together (see Figure 5.9).

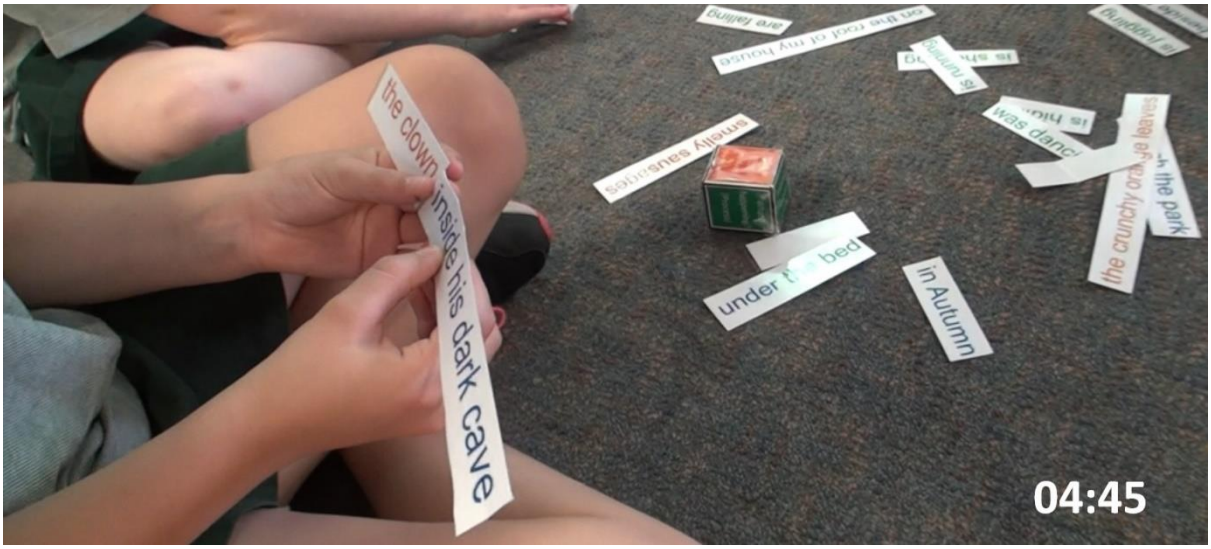

Figure 5.9 Natasha holds her clause pieces together as she reads them aloud.

When asked by the teacher what she had, Natasha read her partial clause aloud making an important error in her reading. When Natasha first read her clause, she incorrectly read it as *"The clown <u>is</u> inside the…"*, before correcting herself and reading the clause as it was written. Natasha's mistake was indicative of her structural understanding of the clause; she understood her clause required a process, evidenced by her inclusion of the relational process 'is'. After indicating that her clause did not make sense yet, Natasha was asked by the teacher what was missing. Before she could answer, Abbi interjected with *"An is!"*. This answer from Abbi shows growth, as during her previous turn, she was unable to realise that her clause did not make sense because it was merely incomplete. Natasha responds to the question with *"Maybe, jumping inside?"* with her choice of a process to complete her clause showing that her level of metalinguistic understanding was at *organisation.* When asked what kind of clause part she was missing, Natasha responded with "*A green one*". This confirms she has attained *identification* as she was correctly able to name the concept of a process, even though she did not use the word *process*, or even the prompt *action* or *what's happening*. Instead, Natasha relied on colour as a semiotic resource to support her understanding. Not yet ready to use the grammatical metalanguage, Natasha has used the more familiar label "a green one" to serve as a place holder for the term process, and accurately used this label to describe the process 'jumping'.

Learning moment two - Transcript 2d

Natasha has the incomplete clause 'the clown inside his dark cave' and uses her identification and organisation knowledge to speculate about an appropriate clause part to complete her clause.

Table 5.7 Learning moment two - transcript 2d analysis

Turn	**Spkr**	**Transcript 2d**	**Dialogic Interaction** ***Learning Talk (LT) Teaching Talk (TT) Questioning (Qu)***	**Supportive multimodal semiotic resources**	**Category of metalinguistic understanding**
1	Teacher	What have you got now, Natasha?	*Qu -Closed*		
2	Natasha	[reads aloud] 'The clown <u>is inside the</u>…' 'The clown…' [reads aloud] 'THE CLOWN INSIDE HIS DARK CAVE'	*LT - Narrate*		
3	Teacher	Oh, does that make sense yet?	*Qu - Closed*		
4	Natasha	No.			
5	Teacher	No, what are you missing?	*Qu - Open*		
6	Abbi	An 'is'!			
7	Natasha	Maybe, jumping inside?	*LT - Speculate*		*Organisation*
8	Teacher	Oh I see, so you're missing… what kind of thing are you missing?	*Qu – Open/develop*		
9	Natasha	A green one?	*LT - Speculate*	<u>*Colour*</u> [used colour label to refer to missing process]	*Identification*
10	Teacher	A green one. An action.	*Qu – Feedback-formative*		

This transcript shows that the game setting created a context within which dialogic interaction could occur meaningfully, giving *(a)* the teacher an opportunity to use questioning to elicit students' understanding and *(b)* students the opportunity to speculate and receive feedback. The colour coded clause pieces allowed this student to use the familiar colour labels as a place holder for more abstract grammatical terms that she was not yet ready to use in her spoken language. In this case, colour acted as a semiotic resource that scaffolded her meaningful participation in the game and allowed her to discuss a grammatical concept (process) and to show her understanding of the structural parts of the clause.

5.2.3 Learning moment three - "You can't do bicycles."

This learning moment (Table 5.9 to 5.10) captures the benefits that are afforded by a games-based approach when students are playing cooperatively and learning in a shared social space. The following two transcripts are of talk occurring between two students who are playing the game Fish or Steal as a pair, sharing the task of completing the gameboard that has been given to them. The two students, Jordan and Josh, were paired together, so that Jordan would benefit from Josh's stronger literacy skills than Jordan, a fact that becomes evident as the transcripts unfold.

In this transcript (Table 5.9, Transcript 3a), Jordan has fished the clause part 'after midnight' out of the pond and incorrectly identified it as a participant, shown by its placement under 'who/what' on the game board to make the clause 'after midnight was painting in the kitchen'. As Jordan begins to read his clause aloud, perhaps to check its meaning, he is interrupted by Josh who points out *"That's not a who…".* This learning talk was coded in the transcript as *argue* and then *explain,* as Josh continues to gently let his fellow student know he got it wrong, by saying, *"That's not who, that could be different",* followed by *"That's not a who one, so that goes…extra information".*

Learning moment Transcript 3a

Jordan has fished the clause part 'after midnight' out of the pond and incorrectly identified it as a participant, shown by its placement under <u>who/what</u> on the game board to make the clause 'after midnight was painting in the kitchen'.

Table 5.8 Learning moment three - transcript 3a analysis

Turn	**Spkr**	**Transcript 3a**	**Dialogic Interaction** ***Learning Talk (LT) Teaching Talk (TT) Questioning (Qu)***	**Supportive multimodal semiotic resources**	**Category of metalinguistic understanding**
1	Jordan	[reads aloud] AFTER MIDNIGHT…	*LT - Narrate*		*Awareness*
2	Josh	[interjects] That's not a who, that's…(inaudible) That's not who, that could be different. That's not a who one, so that goes…extra information.	*LT – Argue, Explain*	*<u>Movement</u>* [slides 'after midnight' to the when/where/why blank space on the game board] *<u>Spoken Interaction</u>* [Jordan listened to Josh's explanation]	*Identification*

Josh provides further support to Jordan as he accompanies his explanation with movement of the clause piece, sliding it across the board to sit in the correct place under the heading 'when, where, how' (Figure 5.10). Josh's use of movement of the game manipulatives acts as an additional semiotic resource for Jordan to draw upon. Jordan's lack of readiness to correctly identify 'after midnight' as a circumstance places his developing metalinguistic understanding at the level of *awareness*. Conversely, Josh has demonstrated his metalinguistic understanding at the level of *identification,* by correctly identifying and placing the clause part on the game board. Furthermore, despite the gameboard only containing the prompt 'when, where, how', Josh used the label 'extra information' to identify

this clause part, demonstrating he has internalised this knowledge and was not relying on the game pieces to supply him with the metalanguage he needed to communicate.

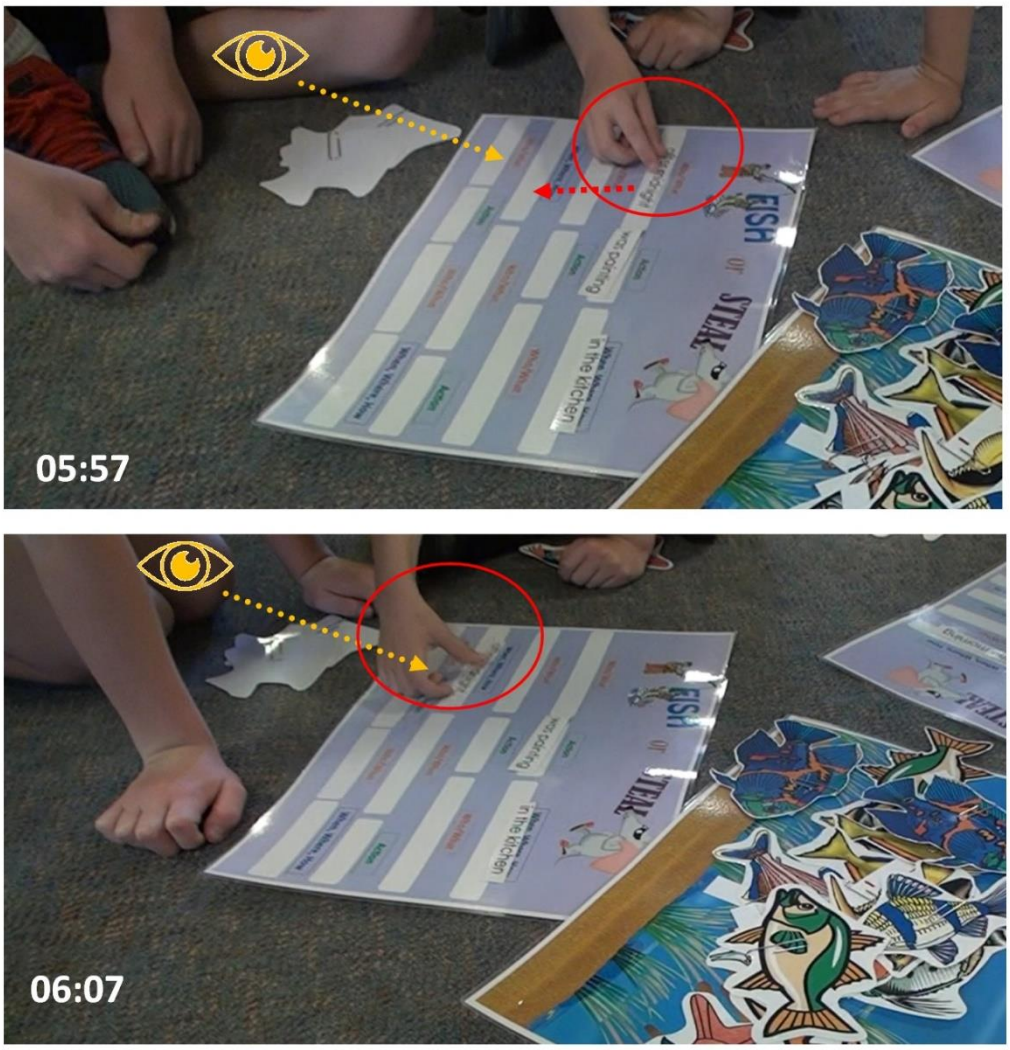

Figure 5.10 Josh supports his partner, Jordan, as he used learning talk to explain the error on the board and demonstrated, through movement, the correct placement.

In the next transcript (Table 5.10, Transcript 3b), it is Jordan's turn again, and once more he requires support from his fellow student, Josh. When Jordan takes his turn, he fishes out a card that reads 'bicycles'. The video footage shows Jordan taking a long time to place his card, clearly having difficulty *identifying* the function of this clause part. Eventually, he hesitantly places the card in the box labelled 'action' and as he hovers his hand over the game board indecisively, he taps Josh on the shoulder repeatedly to gain his attention. These gestural actions accompanied Jordan's verbal request for assistance and supported him in conveying the fact that he needed support to take his turn. Josh responds to this request by

providing a simple and concise explanation *"Bicycles aren't an action. Bicycles are who or what."* and simultaneously slides the card to the correct space on the game board, labelled 'who/what'. Josh uses the labels written on the game board, 'action' and 'who/what', in his explanation. In the few seconds during which this interaction transpires, spoken interaction, movement and written text work together to create meaning and provide Jordan with the metalinguistic knowledge he needed to complete his turn. Josh uses learning talk first to explain the correct identification of 'bicycles' as a participant and then, in response to questioning from his teacher, to justify his thinking by providing an elaboration: *"Because a bicycle is something, you can't do bicycles!"*

Learning moment three - Transcript 3b

As Jordan plays the game and fishes out a card that reads 'bicycles', he is hesitant to place his card, clearly having difficulty identifying the function of this clause part.

Table 5.9 Learning moment three - transcript 3b analysis

Turn	**Spkr**	**Transcript 3b**	**Dialogic Interaction** ***Learning Talk (LT)*** ***Teaching Talk (TT)*** ***Questioning (Qu)***	**Supportive multimodal semiotic resources**	**Category of metalinguistic understanding**
1	Jordan	[fishes out card that reads 'bicycles' and hesitantly places in the action box] [repeatedly taps Josh to gain attention] Josh, Josh, where should we do this?	*LT - Question*	*Gesture* [hovering hand over clause part on game board and then tapping partner to gain attention and support with grammar content]	*Awareness*
2	Josh	Bicycles aren't an action. Bicycles are who or what.	*LT - Explain*	*Movement* [slides 'bicycles' to the who/what blank space on the game board] *Spoken Interaction* [Jordan listened to Josh's explanation]	*Identification*

Turn	Spkr	Transcript 3b	Dialogic Interaction *Learning Talk (LT)* *Teaching Talk (TT)* *Questioning (Qu)*	Supportive multimodal semiotic resources	Category of metalinguistic understanding
				Written Text [labels on game board, 'who/what' and 'action', supported metalanguage use]	
3	Teacher	Josh, why did you move 'bicycles' from an action to a who or what?	*TT – Dialogue* *Qu – Open/develop*		
4	Josh	Because a bicycle is something, you can't ***do*** bicycles!	*LT - Justify*	*Gesture* [Turns palms up in the air and emphasises *do]* *Spoken Interaction* [Jordan listened to Josh's explanation]	*Elaboration*
5	Teacher	Yeah, that's true.			
6	Josh	[Whispering] You can't do bicycles. You can ride bicycles, but you can't do bicycles.			*Elaboration*

These dialogic interactions again demonstrate that Josh's metalinguistic understanding has moved from *identification* to *elaboration*. Gesture is also employed by Josh in this interaction, as he accompanies his spoken interaction with upturned palms in the air to add further emphasis to his point. Immediately after Josh answers the question from his teacher, he can be heard whispering to himself, or perhaps his partner, providing further justification, *"You can't do bicycles. You can ride bicycles, but you can't do bicycles."* Why Josh does this is unclear, he could perhaps be reiterating his point, or clarifying his

understanding to confirm his thinking. This shows further evidence that Josh's metalinguistic understanding has developed to the point of *elaboration.* [7]

5.3 Conclusion

This chapter has explored a range of critical learning moments that arose as young students played the carefully designed grammar games. Each of these learning moments provided insights into how students made use of dialogic interaction and other multimodal semiotic resources to support them as they developed their metalinguistic understanding. Importantly, these moments captured a point in time along a learning trajectory that students appeared to follow as they developed their metalinguistic understanding. How far students had progressed through these stages could be ascertained by careful inspection of their learning talk, their physical interaction with the game pieces, and the kinds of successful and unsuccessful moves they made during game play. The trajectory of metalinguistic development proposed in *Section 5.1* from *Awareness, Identification, Organisation* to *elaboration* was a useful tool for analysing students' knowledge about clause structure as they played the games. Furthermore, the shared social space created by the games allowed for *mediating interactions* and *tools* (*Section 2.5.2)* to work in tandem to support students as they engaged in the process of knowledge building through gameplay. In the next chapter, these findings will be used to answer the three research questions that guided this study.

[7] At the time of designing the game, it did not occur to me that the noun 'bicycles' could be used as either a process or a participant (*She bicycles to work each day/They rode their bicycles to work each day*). This did not emerge as a point of contention in the game as young students did not yet possess the usage of the word 'bicycle' as a verb functioning as a process.

Chapter 6 Discussion

Supporting young students to build knowledge about language and grammar through a games-based approach has been the focus of the study reported in this thesis. The aim of the study was to extend understanding of how games may be used as pedagogical tools to support young students' engagement with challenging and abstract concepts such as grammar. The analysis of the ways students use the meaning-making resources available to them within the shared learning space provided by the games is a contribution to emerging theory and practice regarding the effective teaching and learning of a meaning-based grammar in primary schools. The study was designed as a means of answering the following research questions:

1. *What kind of dialogic interaction emerges through a games-based approach to developing students' knowledge about language?*

2. *How do the multiple semiotic resources of a games-based approach contribute to students' developing knowledge about language?*

3. *How can students' metalinguistic understanding be developed through a games-based approach to learning?*

Insights into how young children can be supported in the classroom to develop their knowledge about language have emerged from the analysis of video recordings collected in the researcher's classroom. The video recordings enabled close exploration of the kinds of dialogic interactions that emerge when a games-based approach is used to help students learn about language, in this case, to learn about clauses – from a functional perspective. Furthermore, the analysis revealed a range of multimodal semiotic resources that students used to support their learning. A close inspection of the social environment within which students played and learned together revealed a detailed picture of how students were developing their metalinguistic understandings. The summary of the study findings aligned with the research questions below is followed by an elaboration of the contribution the study makes to supporting teachers striving to develop students' knowledge about language in the early years of primary school alongside suggestions for future directions for research.

6.1 Research question one

The use of dialogic interaction in the classroom has emerged in the literature (*Section 2.4.2.2)* as a promising pedagogical tool to support students in developing important grammatical understandings. However, our understanding of how classroom talk can support students' developing knowledge about language and metalinguistic understanding is largely limited to whole class instructional contexts where the teacher is in control of managing the dialogic space. The ways in which a games-based approach to learning might provide opportunities for dialogic interactions to occur are not have not yet been addressed. This gap has been addressed in the study by findings used to answer the first research question:

What kind of dialogic interaction emerges through a games-based approach to developing students' knowledge about language?

To answer this question, transcribed dialogic interactions between students, or at times, between students and their teacher, as they played grammar games in small groups, were analysed. Alexander's (2017) framework of dialogic teaching, in particular, the dialogic repertoires (*learning talk, teaching talk, questioning, extending, everyday talk, extending),* were used as an analytic tool to identify the types of dialogic interactions that emerged. The analysis revealed that the games acted as a catalyst or provoking agent which allowed children's dialogic interactions to arise spontaneously through the act of playing the games together. How this spoken interaction, along with other multimodal resources, materialised during game-play will be addressed further in *Section 6.2.*

The purpose for designing grammar games for young children to play during the literacy session was to create a collaborative learning space within which students were engaged, supported and could rehearse and consolidate their new grammar knowledge together. Because collaborative learning through student interactions was always the intention behind implementing a games-based pedagogy, it is not surprising that *Learning Talk*, the most student centred of Alexander's (2017) six repertoires arose frequently in the interactions. In addition to having a shared social space within which *learning talk* could arise, the manipulable game pieces, for example the colour-coded clause parts, played an equally important role in fostering student talk.

Of the eleven types of *learning talk* set out by Alexander (2017), evidence of nine of these types of talk emerged in student interactions; that is, students in Alexander's study were observed to: *narrate, explain, speculate, imagine, explore, question, justify,* and *argue.* The most common type of learning talk appearing in the interactions that emerged while the Year 1 participants in this study played the grammar games was talk that allowed students to *narrate.* At times, students used this type of talk to recount events occurring in the turns of the game. At other times, this narrating process took on the more significant role of allowing students to illustrate that they had arrived at a new idea or had a breakthrough in understanding. For example, in Transcript 1a (*Table 5.1)* Saabi realised that the order of clause parts could be changed while maintaining the meaning. In that moment, she shared her breakthrough with others and narrated her new thinking by exclaiming "*I can change it!"*

This exclamation caused another student in the group, Maddie, to similarly experiment with moving her clause parts and she too realised (*"Oh yeah!"*) that the order of clause parts could be changed (*Transcript 1b, Table 5.2).* Crucial to both learning moments was the ability of the students to manipulate the language on the floor in front of them physically by moving the clause cards. By taking language out of the realm of abstraction and making it something tangible that students could grasp, in both the physical and cognitive sense of the word, the games allowed students to experiment and explore clauses and develop new realisations. The movement of the game pieces initiated the process of *narrating* what was unfolding on the floor in front of them (see *Section 6.2* for more on movement as a catalyst*).* Students' recounting aloud the different ways they had physically organised language served the purpose of not only confirming their new ideas but also sharing those ideas with other students in the social space for them to take up in their own learning, for example, when Maddie observes Saabi rearranging her clauses and explores this idea with her own clause cards (*Section 5.2.1, Transcript1b).*

Other types of *learning talk* that were initiated by the physical act of playing the games occurred when students had made errors and had either organised clauses in ways that did not make sense or had incorrectly placed clause parts onto a game board. Additionally, learning talk was provoked in instances where a student's grammatical knowledge was insufficient for taking a turn in the game and they required the assistance of their peers. When this occurred, the type of learning talk that emerged was usually in the form of *explain* (the second most commonly occurring type of learning talk), *justify,* or *argue.* For example, when

Abbi did not recognise that her clause was incomplete because it was missing the necessary participant for it to make sense, and, thus, was unable to complete her turn independently (*learning moment two)*, Sean used learning talk to *explain* how she could solve the problem (*Transcript 2c*, *Table 5.6*). *Learning talk* was necessary for Sean to explain a possible solution to Abbi as he said *"Yeh, for example, if you like, put 'the dog' there that I've got… Then it would be like 'THE DOG IS JUGGLING BESIDE THE ICE CREAM TRUCK'".* He simultaneously offered his clause card 'the dog' to Abbi to reiterate his point. A similar instance was seen in a different learning moment, when Jordan incorrectly placed the participant 'bicycles' into the action space on his game board. This too acted as a catalyst for learning talk to occur, with Josh similarly using learning talk to *explain* the mistake and correct it: *"Bicycles aren't an action. Bicycles are who or what"* (*Transcript 3b, Table 5.9*). In this instance, Josh continued to use learning talk to *justify* his reasoning *"Because a bicycle is something, you can't* ***do*** *bicycles!"* and *"You can't do bicycles. You can ride bicycles, but you can't do bicycles."* (*Transcript 3b, Table 5.9).*

Patterns of alignment between types of learning talk and students' metalinguistic understanding began to emerge in the analysis. When students whose metalinguistic understanding was further along the developmental trajectory, for example, understanding that enabled *organisation* or *elaboration*, used talk to support a fellow student whose metalinguistic understanding was less developed, for example, whose understanding was only at the *awareness* or *identification* stage, the type of learning talk used was more likely to *explain* or *justify* than to *narrate (see Transcript 2c & 3b).* What this suggests is that the kinds of learning talk that emerge when students are playing the grammar games are a useful vehicle through which more knowledgeable students can articulate what they know and can do, in this way supporting their less knowledgeable peers. Thus, these kinds of learning talk can act as a *mediating tool* to support students developing their knowledge about language as they play the games.

6.2 Research question two

When the use of games to help teach students about clause parts and their functions was first embedded into the literacy block, it was done so with the idea that the design of the games along with the opportunity for a shared social space for learning would provide

students with additional support. While it was anecdotally evident from the outset that these games were engaging, motivating and successful in supporting students to develop their grammatical understandings, it was not immediately clear precisely why this was the case, and so it thus became the subject of further study.

A review of the literature has demonstrated that dialogic interaction, particularly that which uses a shared grammatical metalanguage, has been an effective means for developing students' knowledge about language and metalinguistic understanding. Furthermore, a social constructivist theory of education supports the use of mediating tools and interactions within a shared social space as pedagogical strategies. Additionally, the use of multimodal meaning-making resources in the classroom has been shown to be a further pedagogical support. Playing the grammar games make multiple semiotic resources available to students, including dialogic interaction, written language, manipulatives and the movement of those manipulatives, colour and gesture, along with the use of a shared language for talking about grammatical features. How a games-based approach harnesses these semiotic resources in concert for the purpose of developing students' knowledge about language is the focus of the second question in this study:

How do the multiple semiotic resources of a games-based approach contribute to students' developing knowledge about language?

To answer this question, students' interactions while playing the grammar games in small groups were analysed, alongside the role the different semiotic resources played in contributing to students' developing knowledge about language. The multiple semiotic resources designed into the grammar games appeared to support students in developing their knowledge about language, as revealed by transcribing the students' interactions and annotating stills from the accompanying video capturing the game-play. According to Alexander (2018):

> Video and audio are not only ideal for capturing classroom interaction as both sound and behaviour, for talk is signalled by body language and gesture as well as by what we say and hear (p. 15).

For this reason, both audio and video recordings were analysed to provide a more detailed picture of how students were making use of the multiple semiotic resources available to them and how these resources contributed to their developing knowledge about language.

The multiple semiotic resources provided by a games-based approach were expressed as modes. The discussion of multimodality in Chapter 2, Section 2.5.4 described modes as being mode-like when they became an available resource for meaning making. Thus, the modes for representing meaning evident during gameplay, for example, spoken interaction, colour or gesture, are also referred to as multimodal semiotic resources, as the different modes act as multiple sources of meaning for students.

The multimodal semiotic resources provided by the games-based approach that became evident through this research study can be categorised in one of two ways: those which are *designed-in* elements of the games, and those which are *provoked* by the game design and occur as the games are being played. The *designed-in* multimodal elements of the games (*see Chapter 4, Section 4.3),* include the manipulatives (game pieces), written language and colour coding, carefully selected so each mode represents the functions of the clause parts (colour, question probe, written label and location on the game board). These elements acted in support of one another as tools for thinking while the young students grappled with grammatical knowledge. The *designed-in* elements remain constant every time the games are played and serve the purpose of creating a physical representation of the grammatical content knowledge students are learning. The written language, for example, probe questions such as *what's happening?*, the manipulable clause parts and the colour coding all act as semiotic resources to support students as they play the game. These resources *hold* the knowledge for the students and make it available to them as they need it, so they do not have to remember it. In reducing the cognitive demand in this way, space is created for students to think about language and explore patterns and ways of making meaning. The designed-in elements of the games work in a similar way to the sets of concrete materials used in the Montessori educational system, described by Feez (2019) as *ensembles of meaning making resources* which "…engage children in practical and purposeful activity during which they manipulate and name concrete objects representing educational meanings" (p. 35). The concrete manipulable pieces of the grammar games represent clause parts and their functions, allowing students to engage with and explore these meanings.

When Natasha was holding an incomplete clause and asking what kind of clause part was missing (*Transcript 2d, Table 5.7)*, she responded with "*A green one".* As seen in *Figure 5.9 (Section 5.2.2)*, when the clause parts were held together, Natasha was able to rely on the colour coding to highlight that her clause did not yet have a process, suggesting something

that would help complete her clause so that it would make sense: *"Maybe, jumping inside?"* This student was correctly able to identify the concept of a process, even though she did not use the word *process*, or even the prompt *action* or *what's happening*. Instead, she relied on colour as a semiotic resource to support her understanding. Not yet ready to use the grammatical metalanguage, Natasha has used the more familiar label "a green one" to serve as a place holder until she was ready to use a more technical term for labelling this knowledge.

In contrast to the *designed-in* semiotic resources that were available to students, it became apparent through the analysis that there were other multimodal semiotic resources students used while the games were being played - movement, gesture and spoken interaction – and that these were *provoked* by the design of the games. They emerged spontaneously while the children were playing the games and so vary each time the game is played. The analysis of the observations of the learning moments shed light on the ways that spoken interaction, often in the form of *learning talk* as detailed in S*ection 6.1* above, movement and gesture played a crucial role in supporting students as they developed their knowledge about language through playing the grammar games. To answer this research question (RQ2), multiple semiotic resources, both designed-in and provoked by design, worked together as mediating tools to support students' developing knowledge about language.

Movement as a semiotic resource was observed to have played a role in students' learning about language through playing the grammar games. This movement arose as a result of students' interaction and engagement with the manipulatives. The analysis of each of the learning moments provided evidence to suggest that as students participated in gameplay, they made choices about their movements in order to change relationships between manipulable pieces and, thus, the language patterns used to create new meanings. Movement enabled the discovery of new grammatical understandings as students experimented and played with the range of different ways that clause parts could be rearranged. Students observing the movements of peers also advanced the conceptual understandings of other students. For example, after Saabi experimented with the order of clause parts by moving the pieces around on the floor in front of her (*Transcript 1a, Table 5.1, Figure 5.4),* Maddie observed this movement and she too moved her game pieces to experiment with patterns of language to create new meaning (*Figure 5.5).* The designed-in semiotic resource of colour worked in tandem with movement in these learning moments to reinforce clause part patterns,

for example, by colour-coding circumstances blue, Saabi could see that the 'blue parts' could be placed at the beginning or the end of her clause.

Movement that occurred as students acted to solve problems or fill knowledge gaps experienced by their peers also served as a supporting semiotic resource during gameplay. For example, Sean and Keira both picked up and held out their participant clause cards, accompanied by their verbal explanation, as a way of trying to support Abbi to realise that her clause did not make sense as she was missing a participant card (*Figure 5.8*, also *Transcript 2c, Table 5.6).* Movement also acted as a supporting semiotic resource when students corrected errors made by other students playing the games. When Jordan fished the clause part 'after midnight' out of the pond and incorrectly identified it as a participant, shown by its placement under who/what on the game board, Josh corrected this mistake and slid the clause part to the when/where/how blank space on the board (*see Figure 5.10).* Josh accompanied this movement with an explanation *"That's not a who one, so that goes…extra information."* In both learning moments, Sean, Keira and Josh used spoken interaction to complement their movements when attempting to support their peers who were experiencing difficulties in playing the games due to limited metalinguistic understanding. In these instances, the modes of movement and spoken interaction are co-deployed by the students in tandem in order to make their meaning clearer.

A critical feature of the mode of movement is that it appeared to be a catalyst for other modes to emerge that provided additional semiotic resources to support students as they developed their knowledge about language. For example, spoken interaction occurred frequently as students narrated or explained their movement choices, or responded to the movement choices of others. For example, when Maddie was unsure about whether she had arranged her clause parts in a way that made sense (*Transcript 1c, Table 5.3),* she used movement to ask an unspoken question. She shuffled her clause parts around on the carpet at speed, trying to draw attention to them, before returning them to their original position (*Figure 5.6).* This movement prompted another student in the group, Altai, to notice the pattern of clause parts in front of Maddie and to respond orally, *"That makes no sense though!"* (*Transcript 1c, Table 5.3*). The movements made by students - whether made in error, to explore a new idea, to correct another students error, to gain attention or to solve a problem - acted as a catalyst for spoken interaction to emerge as an additional semiotic resource that led to further learning. While some student interaction would have occurred

anyway in this shared learning space, movement as it appeared in the data provided a tangible driver for meaningful learning talk.

The types of spoken interactions that occurred, and the ways in which this learning talk supported students to develop their knowledge about the clause as they played the games, has been summarised in *Section 6.1* above. The spoken interaction between students that occurs during gameplay acts as a mode due to the work these interactions do as a meaning making resource for students, as it is through talk that they develop and reinforce their own understanding and also contribute to enhancing the understanding of others. Although spoken interaction was one of the multiple semiotic resources that emerged as students played the grammar games, it is not discussed again here as it has been explored earlier in this chapter. It will still be referred to, however, in instances where the spoken interaction works together with another mode of meaning such as movement or gesture, and students are making use of multiple modes of meaning as a learning tool.

Gestures and body language also emerged as modal semiotic resources as a result of the movement of tangible game pieces, either by the mover seeking clarification or validation, or by others in response to the actions of the mover. During game play, gestural actions often occurred simultaneously with spoken interaction and was observed to support both the way that students expressed and understood the meanings embodied in the games. McNeill (1992) refers to gesture and speech as occurring in "close temporal synchrony" and as often carrying identical meaning (p. 10). Gesture can function either to deliver meanings that may not always be possible through speech or to exhibit meaning that the speaker considers to be hidden (McNeill, 1992).

When the grammar games were being played, students used gesture to make experiential meanings as well as interpersonal and textual meanings, to build either their own understanding of the knowledge embodied in the games, or the understanding of others. The gestures students used when playing the games were provoked by the designed-in features of the games, such as the manipulatives. When Jordan had fished out the card that read *bicycles* and did not know where to place it on the game board, gesture was used to appeal for (interpersonal meaning) and secure necessary content knowledge (experiential meaning) that this student needed to complete his move in the game (textual meaning). Jordan accompanied his verbal request for support in deciding where to place the card*, "Josh, Josh, where should we do this?*" (*Transcript 3b, Table 5.9),* with additional gestures that included hovering his

hand over the incorrectly placed card, turning his body to face his partner, changing his facial expression to one of appeal and tapping him gently on the shoulder to draw attention to the fact he needed support. As Josh answered Jordan's appeal for support and moved *bicycles* to the correct place on the game board, he used gesture to intensify the spoken language he used when explaining why he moved the card *bicycles* from a Process position to a Participant position on the game board. Josh raised his hands in the air, showed his upturned palms and placed heavy stress on the word *do* as he said … *you can't* ***do*** *bicycles*. The synchronisation of spoken language with exaggerated gesture that included upturned palms and raised hands contributed to increased message abundancy (Gibbons, 2006) and was used by the student to further reiterate his meaning when correcting an error in understanding.

Gesture also appeared to be used by students to express meaning in place of spoken interaction or movement of game pieces within the shared learning space. For example, in learning moment two when Abbi was struggling to take her turn, her peer, Olive, remained silent but used gesture to attempt to support her. As shown in *Figure 5.7,* Olive silently points to and taps with her finger two different participant cards on the carpet in an attempt to help Abbi identify the missing structural element of her clause. Later in this same learning moment, after Sean has given Abbi a verbal explanation of how she could solve her problem, accompanied by his use of movement as he physically offers his participant card to her (*Transcript 2c, Table 5.6),* Olive again reverts to the use of gesture, pointing to the participant '*the dairy cow'* but still electing not to participate in the dialogue. Exactly why this occurs in some learning moments is unclear. It is possible that Olive did not possess the necessary language skills to articulate her meaning and relied on gesture instead. She may have lacked the social skills to interject in the existing dialogue that was occurring and make space for her contribution. Perhaps Olive did not feel confident testing her thinking by sharing it in the learning space and opening it up for critique by the group. Regardless of the motivations, the data suggests that gesture is a significant semiotic resource that occurs within the kind of shared learning space that is created by this games-based approach to learning.

In returning to the second research question which seeks to further understand how the multiple semiotic resources of a games-based approach can contribute to students' developing knowledge about language, the video data has shown that within the shared social space that is created when young children play these grammar games, there are a number of

semiotic resources at play. These include the purposefully *designed-in* multimodal game elements such as manipulative game pieces, colour, and written language. In addition, there are other multimodal semiotic resources that are *provoked* by students' interactions with the designed-in game elements that include movement, spoken interaction and gesture. The data is suggestive of the fact that students do not rely on one single semiotic resource as they play the games, but rather, multiple meaning making resources work in concert together as students weave meanings together drawn from mediating interactions, for example, *"Bicycles aren't an action. Bicycles are who or what."* and mediating tools, for example, exploring patterns of language by moving clause cards. As the tables of analysed learning moments suggest, students did not progress their metalinguistic understandings as solitary learners working on an individual task. Rather, they were afforded access to a range of meanings across multiple representations to draw on as they practised new collaborative understandings. The multiple semiotic resources available in the games through multimodal representation of grammar content supported children as they progressed along a continuum, beginning with what they already know, via understandings shared collaboratively with others, to independent knowledge and understanding that could be applied and used in other contexts.

6.3 Research question three

Developing students' metalinguistic understanding has been demonstrated through current research as being an effective approach for explicitly teaching about grammar from the upper primary to secondary years of schooling (*Section 2.4.2.1*). In an effort to understand more precisely how these metalinguistic understandings develop, studies by Chen and Jones (2012) and Chen and Myhill (2016) analysed student dialogue to develop a framework that mapped a trajectory of students' metalinguistic development. However, there are as yet no studies that address whether these existing frameworks are appropriate for tracking how metalinguistic understanding develops in much younger students, for example, those in the first few years of formal schooling, who may not yet be independent readers or writers, but who nonetheless are still able to engage with language and learn about how language is used as a meaning-making tool. Furthermore, we do not yet have an understanding of how to go about developing metalinguistic understanding in these young students, as they have yet to develop competencies in other areas of literacy and therefore are not ready to engage with

other pedagogical approaches that may be more commonly used in classrooms. This gap in understanding was addressed through the third research question in this study:

How can students' metalinguistic understanding be developed through a games-based approach?

This culminating question brings together the answers to RQ1 and RQ2, and intersects these with the proposed framework for how young children develop their metalinguistic understanding that was introduced in Chapter 5 (S*ection 5.1)*. In answering this third research question, it is suggested that as students played the carefully designed grammar games, the *learning talk* that originated in the shared social space, along with the students' use of a range of multimodal semiotic resources that were both designed into the games and provoked by the act of playing them, acted as mutually supportive mediating interactions and mediating tools. These interactions and tools worked in synchrony to support students in developing their metalinguistic understanding specific to the functional parts of the clause, beginning with *awareness* and progressing to *identification,* followed by *organisation* and then lastly, *elaboration* (see Figure 6.1 below).

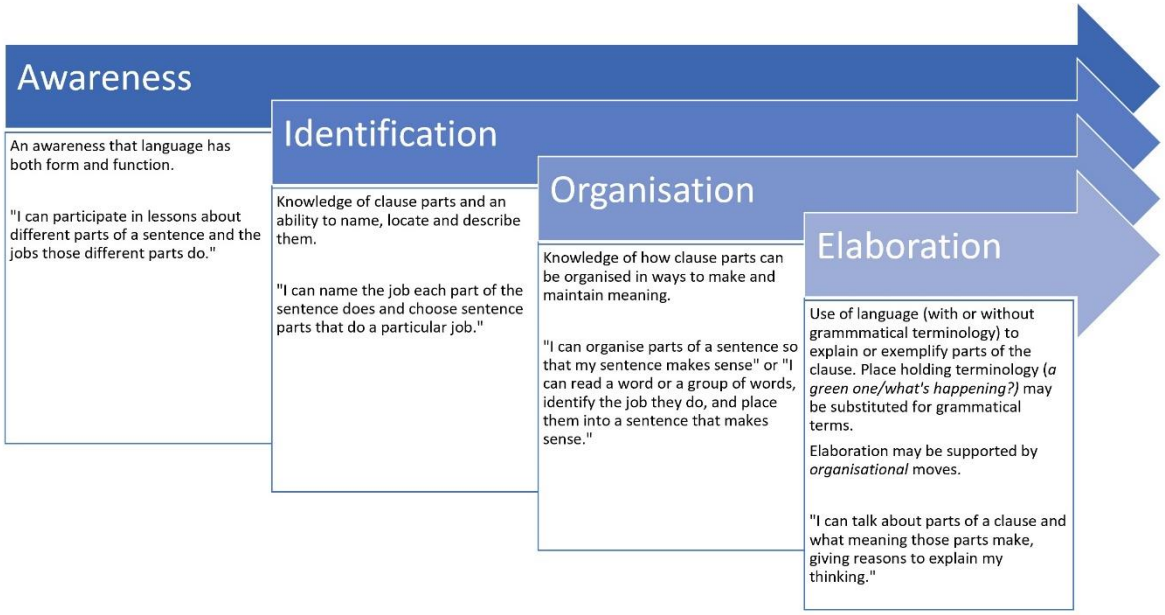

Figure 6.1 A proposed trajectory of metalinguistic understanding that young students demonstrate as they play grammar games designed to build students' knowledge about the clause.

Through analysis of students' interactions while playing grammar games, it has been possible to elaborate Chen & Myhill's (2016) framework to capture more precisely how the students' metalinguistic understanding developed. The finer distinctions added to the existing framework arose from the experiences of these students with a particular set of grammatical concepts. This is significant as it demonstrates that although young children may require smaller, more incremental steps as they develop their metalinguistic understanding, they are capable of developing complex and abstract understandings about language and how it works, even before they have mastered the skill of becoming literate, a possibility that was historically thought to be unachievable for students of this age and developmental stage.

Furthermore, by demonstrating how dialogic interaction (*Section 6.1*) and a range of other multimodal meaning-making resources (*Section 6.2*) were employed by students as learning supports, a case can now be made that children's learning is not all of a piece. In other words, students may travel together from point a) to point b) while travelling divergent roads to arrive at the same destination. Through close inspection of the interplay between the multiple semiotic resources at play while children played the games, it can be seen that children can follow different pathways to building conceptual knowledge. Importantly, the games-based approach explored in this study provided a model for how students can be offered a range of supportive semiotic resources to use as needed. Despite students' developing their metalinguistic understanding at different rates, evidenced through the transcribed talk that showed some students having progressed to *elaboration* while others were still at *identification*, all students could participate in the same activities and access the intended content, and in doing so, they supported each other to collectively build understandings. The mediating tools and interactions made available to students through a games-based approach performed in concert to develop students' metalinguistic understanding.

6.4 Final considerations and future directions

The aim of this study was to explore the use of a games-based pedagogy for developing students' knowledge about language and grammar in the early years of primary school. It did so with a view to extending current understandings of how pedagogical tools could be used through games to support young students' engagement with abstract grammar knowledge, such as clause parts and their functions. In adopting a functional approach to

grammar to develop students' knowledge about language through games, it was envisaged that this work would contribute to the ongoing development of theory and practice regarding the effective teaching and learning of a meaning-based grammar in primary schools. The answers to the research questions above achieve these aims and therefore represent a step towards supporting teachers as they look for engaging and effective pedagogical approaches to teaching students, especially young students, about language in general, and grammar in particular.

The Year 1 students participating in this study demonstrated evidence of their developing metalinguistic understanding as it related to knowledge of clause parts and their functions. They learned that parts of language can be labelled, that these language parts serve different meaning-making functions and that the order of these parts can be experimented with while still preserving the intended meaning of written text. Despite long held educational wisdom that young students were incapable of understanding such abstract knowledge, this study shows that well-designed mediating resources, and the interactions they generate, can, quite literally, put this kind of knowledge into children's hands.

Analysing the use of a games-based approach to developing students' knowledge about language revealed that mediating interactions can take the form of what Alexander (2017) describes as *learning talk*. The games created a shared social space within which this kind of talk could emerge, often with the manipulable pieces of the games acting as a catalyst for this talk. The first repertoire in Alexander's (2017) framework of dialogic teaching focuses on *interactive settings;* classroom organisational structures within which dialogic interaction can occur, one of which is *group work (student-student, student led),* and arguably the kind of organisational structure within which these grammar games fit. Alexander (2018) writes that the principles of dialogic teaching are not confined to any one preferred pattern of organisation and that there was an interest in "…building a comprehensive pedagogical repertoire" (p. 7). This study contributes to this kind of pedagogical repertoire by providing an example of how a games-based pedagogical approach can create a suitable dialogic space for learning talk to occur without the facilitating presence of the teacher. Moreover, this study provides evidence that suggests that the kind of learning talk that occurs in a games-based interactive setting is a useful tool for developing students' metalinguistic understandings.

Close inspection of the video footage and annotating still frames taken from the footage enabled analysis of a further component of the shared social space. The complex

interactions that were occurring between students and the multimodal resources designed into the games themselves were explored and relationships were found between these resources, for example, the manipulable clause pieces, and how students were using them as mediating tools to support their grammatical understanding. These multimodal resources remained constant each time the games were played, while being augmented by other semiotic resources that arose spontaneously during gameplay, such as movement, spoken interaction and gesture. The use of a games-based pedagogical approach appeared to be able to harness a range of mediating interactions and tools effectively within a shared social space for the purposes of developing students' metalinguistic understandings. Although the findings of this single case study are not generalisable due its limited scope and small scale, the study nevertheless provides some promising ideas for teachers, particularly those seeking support as they enact grammar content in the curriculum in the early years of primary school.

6.4.1 Implications for teachers

This study provides teachers with an illustration of practice that demonstrates, albeit in just one classroom, that learning about language can occur within shared social spaces. Furthermore, these shared learning spaces can be rich collections of multimodal semiotic resources that include dialogic interaction, movement, gesture, colour and written language, all working together to deliver concentrated content knowledge for students. It is important here to note the role that students play in making use of these resources. As suggested by the student interactions in this study, when multiple representations of knowledge are made available to students, they will maximise their use of these in order to support their learning. What also appears to be special about the shared spaces that these grammar games create is the way that abstract knowledge is given material representation for students to work with, rather than having to hold abstract understandings in their memory.

Another important implication for teachers, although not explicitly discussed in the findings chapter of this thesis, is the opportunities these games afforded for students to develop their reading fluency. What became clear not just in the analysed learning moments presented here, but across all the recorded interactions, was that in playing these games, students were given frequent, genuine and purposeful opportunities for repeated reading practice. Sometimes, while students were busy taking their turn and trying to *make sense* of the clause cards in front of them, they would read and then re-read the same clause over and over, often three or four times in quick succession, each time with increasing fluency and

expression. There are few other opportunities in early years classrooms that come to mind, where this kind of repetition is built into a task in such a purposeful and engaging way, and, importantly, where it does not seem repetitive and aimless to the students. These games did not just provide a space within which students could develop their knowledge about clause structure, but also a space where authentic reading practice could occur.

As discussed in Chapter 2, the place of grammar in the English curriculum over time has been in a state of flux, and even now, as grammar appears to be entering a period of renaissance, there remain many challenges facing teachers as they plan to enact this content. In NSW where this research was carried out, we are yet to see any consistency in available teacher professional development regarding a functional or meaning-based approach to grammar. There is not yet a shared body of pedagogical knowledge, nor a shared language with which to talk to students about their language use in purposeful ways. While the structure and metalanguage of a functional approach to grammar, including the probe questions and functional terminology, have been useful tools for me to use in the classroom with my students, generally, teachers' access to these tools is limited. However, even in these circumstances, the games-based approach to developing students' knowledge about language described in this study can still be a supportive pedagogical tool for teachers. While not all teachers in schools are adopting a functional approach to language, this games-based pedagogy could be adapted by reverting from functional labels to more traditional form labels. For example, *verb group* could take the place of *process* and the probe questions, for example, *what's happening?* could remain as a meaning-based prompt to help students focus on chunks of meaning and the job that words do so that they can manipulate and control written language more easily.

This research suggests to teachers that dialogically-rich, shared social spaces that provide opportunities for purposeful learning talk with a shared metalanguage alongside access to a wide range of other representations of content knowledge, are fruitful learning environments for young students. These kinds of environments are especially important when attempting to teach young children abstract concepts, such as knowledge about language and grammar. While a games-based pedagogical approach to teaching grammar may not be the only way to support students in learning this kind of knowledge, this research has demonstrated that a games-based approach can provide the necessary mediating tools and interactions for students to encounter success.

6.4.2 Limitations and future directions

This study represents a first foray into exploring the potential benefits of using a games-based pedagogical approach to developing students' knowledge about language in the early years of school. The findings of this study are small, but promising, and as such, further research is warranted to establish the benefits of this kind of classroom pedagogy for teaching grammar to young students.

A significant limitation of the study is that the findings are not generalisable due to the small, single case study design. Future research could take the form of larger scale studies that explore whether similar findings can be replicated across a range of settings, particularly in settings with a higher proportion of English language learners and greater socio-economic diversity than among the participants in this study. It is acknowledged that the demographic of many of the students in this study meant that they came to school with social and cultural capital that prepared them for learning based on classroom talk. Exploring whether these kinds of grammar-games foster *learning talk* in other settings is still to be addressed.

Another important avenue for future research is understanding the impact that a games-based approach to learning about grammar could have on young students' reading and writing ability. Interview data collected as part of this study, although not used in the analysis phase reported here because it fell outside the scope of the study, suggest that students who demonstrated evidence of metalinguistic understanding at one of the later stages of the proposed framework, for example, *organisation* or *elaboration*¸ were not yet ready to apply this knowledge outside the games setting. Some students presented with a sentence from a familiar picture book, and asked questions about the clause parts and the meanings each part made, were not able to apply their knowledge to written text without the supportive elements of the games, for example, colour or movement. While some students were able to complete these tasks successfully, for example, Douglas's easy response in the introduction chapter of this thesis, other students found talking about clauses outside the context of the games challenging, despite having shown mastery within the games-based environment. This suggests that students progress their understandings and thus are ready to leave the supportive environment of the games at different rates and there is more work to be done in understanding when and how students move from relying on physical representations of abstract ideas to internalising this knowledge and being able to apply it without having scaffolding tools at their disposal.

This study has proposed a framework of metalinguistic understanding that students appeared to follow as they develop their understanding about functional parts of the clause. However, the framework presented here is in its infancy and requires further, rigorous exploration. Specifically, this proposed framework was naturally limited to four stages of understanding as this was all that could be allowed for within the small scale of the study. However, a future study could replicate the use of these games and investigate how students apply this knowledge to their own written texts, to their reflections on their own texts, and their reflections on author's choice of language features in familiar picture books. This would provide an opportunity to develop this framework further and, importantly, discover whether young students continued to progress their metalinguistic understanding in similarly small and incremental steps as was suggested in the findings from this study. It would also be worth exploring whether older students, for example those in upper primary school, would demonstrate the same categories of metalinguistic understanding as the young students in this study have done; or, if being older, they require fewer incremental stages.

An important contribution of the research is the representation of how the range of multimodal semiotic resources are made available to students within a shared social space as they played grammar games, and how these resources worked together to support students learning about clause parts and their functions. The shared social space created by the grammar games and the use students make of the mediating tools and interactions within it such as manipulatives, colour, written language, spoken interaction, movement and gesture is an area that demands further investigation if the full meaning-making potential of the semiotic resources made available by a games-based pedagogical approach to learning about language is to be understood.

One final thought on future research is not related to the content of the study, but rather the nature of this research process. In my role as researcher, and simultaneously a fulltime classroom teacher of the students participating in the study, the process of conducting this research has been immensely rewarding and challenging in equal measure. What has carried me through the challenges is a resounding belief that teachers who are also skilled researchers should be the standard expected in our profession, not an anomaly. The depth and breadth of knowledge that I have developed through this process has been a privilege, and one that I hope many more teachers have the opportunity to encounter through sustained research that has grown organically from their classroom practice. So my final

thought on future directions emerging from the study reported here is that it be expanded to include more teachers working in partnership with and under the expert guidance of educational researchers and leaders to co-construct new pedagogical know-how for the classroom to support teachers as they do the important work of developing students' knowledge about language.

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Appendices

Appendix A

Information Sheet for Parents/Guardians

The following pages are a copy of the written information outlining the purpose of the study and the nature of participant involvement in the study that was provided to parents or guardians of student participants.

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INFORMATION SHEET for PARENTS/GUARDIANS

I wish to invite your child to participate in my research project, described below.

My name is Imogene Cochrane Bond and I am conducting this research as part of my Masters of Education (Research) in the School of Education at the University of New England. My supervisors are Dr Susan Feez and Dr Pauline Jones.

Research Project

Games-based pedagogy as a tool for developing students' cumulative knowledge about language (KAL): A dialogic approach for the early years classroom.

Aim of the research

The research aims to investigate the use of a games-based approach for developing students' knowledge about language in the early years of primary school. For the purposes of this study, a games-based approach is one that uses a range of hands-on games and activities played by students in small groups within the context of a whole class literacy session. These games have been designed so as to give students opportunities to practise and consolidate their knowledge of particular grammatical or language features that have been explicitly taught, for example, basic clause structures, building noun groups or understanding circumstances of time and place.

In particular, I am interested in three key things:

a. How do the conversations that students have with each other when they play games about language and grammar help them to develop their knowledge about language?

b. To what extent do games-based activities give students opportunities to engage in talk about language and grammar?

c. How can using games to promote talk about language help students to be better able to talk about the language good authors have used in books, as well as language choices the students make in their own writing?

The main idea of this research is to listen to what students say and do when they are participating in games-based grammar activities to determine how effective this strategy is in developing their knowledge about language.

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INFORMATION SHEET for PARENTS/GUARDIANS

Participation in games-based grammar activities

Your child will not have to do anything that is different from their normal classroom routine. The NSW English K-10 syllabus requires that we develop students' knowledge about language and grammar and teachers often use a range of games and activities to do this. During reading and writing lessons, your child will be learning about language and grammar and will be asked to participate in a range of games-based activities in the classroom that will help to consolidate their knowledge and understanding of key concepts.

The only thing that will be different is that I would like to make audio and video recordings in the classroom to capture what students say and do during the learning process. This may include the answers that your child gives to questions asked by the teacher, or conversations your child has with other students while they are playing games and completing activities that have been designed to help them learn the content. Recording the students at work is very important for this study, as it will allow me to listen very carefully to the things that students say and understand how students use their conversations with one another to assist their learning.

This research project will be carried out during Term 4, 2016. Students will participate in English lessons as per their normal routine, and lesson content will not be changed from what is already planned. Periodically during Term 4, 2016, we will select some lessons and activities to be recorded in order to best capture student learning and development.

Interviews

Your child may be asked to participate in a face-to-face interview during class time with me so that I can ask them questions that demonstrate their understanding of language and grammar. This is a short interview that will take less than ten minutes and I would like to record your child's responses so that I can accurately recall what they say. The interview questions will be about the language choices made by authors of picture books that the students know well, and about the language choices they have made in their own writing. The purpose of these interviews is to help me better understand how students learn and will not be used to inform student grades or the end of semester reports in any way.

Confidentiality

The research will be conducted under the auspices of the University of New England and as such will adhere to strict ethical guidelines. The audio and video recordings will not contain the faces of students and students will not be able to be identified from the video or audio footage. The recordings will be stored safely and confidentially in

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INFORMATION SHEET for PARENTS/GUARDIANS

accordance with university guidelines. Additionally, we will never identify the school the data has been collected in, or name any students or teachers involved.

Participation is Voluntary

Please understand that your child's involvement in this study is voluntary and I respect your right to withdraw your child from the study at any time without consequence. Data concerning your child will also be withdrawn if you do so and you do not need to provide an explanation.

All students will be asked at the beginning of each session if they are happy to be recorded. If they are not feeling well, or express that they do not feel comfortable being recorded, then we won't record them on that day. If this happens, your child will complete other learning activities in the classroom that are not filmed and will address the same curriculum content.

Use of information

I will use information collected from recording students at work in the classroom and by asking them questions for my thesis, which I expect to complete by March 2018. Some audio and video data recorded during this research project may be quoted or appear in academic publications and in related professional learning activities for other teachers. If your child is quoted or appears in video data, neither they nor the school will be identifiable in any way.

Storage of information

I will keep hardcopy notes and recordings of the interviews in a locked cabinet at the researcher's office at the University of New England's School of Education. An electronic copy of the data will be kept on a password protected computer in the same School. I will have an electronic copy of the data on a password protected computer located in my home office. Only the research team will have access to the data. This data will be kept securely for minimum of five years, after which it will be stored securely for an indefinite amount of time.

Approval

This project has been approved by the Human Research Ethics Committee of the University of New England (Approval No. HE16-240 Valid to 18/10/17).

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INFORMATION SHEET for PARENTS/GUARDIANS

Contact details

Feel free to contact me with any questions about this research by email at icochran@myune.edu.au or by phone on 02 9557 5206.

You may also contact my supervisors. My Principal supervisor's name is Dr Susan Feez and she can be contacted at sfeez@une.edu.au or 02 6773 2920 and my Co-supervisor's name is Dr Pauline Jones and she can be at paulinej@uow.edu.au or 02 4221 3322

Complaints

Should you have any complaints concerning the manner in which this research is conducted, please contact the Research Ethics Officer at:
Mrs Jo-Ann Sozou
Research Services
University of New England
Armidale, NSW 2351
Tel: (02) 6773 3449
Email: ethics@une.edu.au

Thank you for considering this request and I look forward to further contact with you.

Regards,

Imogene Cochrane Bond

Appendix B

Consent Form for Parents and Guardians

The following page is a copy of the written consent form provided to parents or guardians of student participants in the study.

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CONSENT FORM
for
PARENTS/GUARDIANS

Research Project: *Games-based pedagogy as a tool for developing students' cumulative knowledge about language (KAL): A dialogic approach for the early years classroom.*

I, ……, have read the information contained in the Information Sheet for Parents/Guardians and any questions I have asked have been answered to my satisfaction. Yes/No

I agree to allow my child …… to participate in this activity, realising that I may withdraw my child's participation at any time. Yes/No

I agree that audio and video recordings of my child's classroom interaction and copies of my child's writing gathered for the study may be published but without my child being identified Yes/No

I agree that research data gathered for the study may be quoted and published using a pseudonym so that my child will not be identified. Yes/No

I agree that my child may be selected to participate in a short face-to-face interview and that this interview will be recorded and transcribed.

Yes/No

…… ……
Participant Date

…… ……
Researcher Date

Appendix C

Assent Form for Children and Young People

The following page is a copy of the written assent form provided to student participants to seek their assent to participate in the study.

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ASSENT FORM for CHILDREN and YOUNG PEOPLE

Research Project:
Using a games-based approach for developing students' knowledge about language.

Please write your name after 'I,', and circle the yes/no answer you want.

I, ……., have read the Information Sheet for Students and any questions I asked have been answered and I understand them.

I agree to take part in this work. Yes/No

I know that I can change my mind at any time. Yes/No

I agree that what I say and do in English lessons may be filmed and shown to other people. Yes/No

I understand that things I say may be quoted and written about using an invented name. Yes/No

…….. ……
Student Date

…….. ……
Researcher Date

Appendix D

Information Sheet for Students

The following pages are a copy of the student information sheet that was provided to the student participants in the study to read with their parent or guardian prior to giving their assent.

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Student Information Sheet

Project title: Using games-based activities for learning about language.

My name is Mrs Bond and I am your Year 1 teacher. When I am not at school teaching, I also study at University where I am learning more about the best way to teach my students about language (things like words and sentences) so they can be better readers, writers and speakers.

I would like to ask for your help with a project so I can better understand how you learn about language. Susan Feez, from the University of New England and Pauline Jones, from the University of Wollongong will be helping me with this project.

All the information you may need to know about this project is listed below.

1. Why do I want to do this project?

I want to teach you some special games that will help you learn more about words and sentences. I want to listen to what you say to other students when you are playing these games so that I can see if the games are a good way to help you learn and know more.

2. What will I be asked to do in the project?

You do not have to do anything that is different. At school, you will be learning new things about words and sentences. Sometimes you might be asked questions by your teacher about what you think. Sometimes you might learn some new games and activities that will help you to practise what you know. I would like to ask your permission to record on video what you say and do during this time so that I can look at it again later. I would like to record 6 of our English sessions that will go for 2 hours each. That's 12 hours altogether. You might only be recorded for a short time during each lesson. I would like to ask you to sign an assent form to give me permission.

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Student Information Sheet

3. What will be different?

What will be different is that I want to record your class as you learn about words and sentences. I may also ask you some questions about what you think about the words authors have used in books and the words you have used in your own writing. I want to record your answers because it will help me understand how to help you learn more at school.

You will be asked at the beginning of each lesson if you are happy to be recorded. If you are not feeling well, or do not feel like you want to be recorded, that's OK, and we won't record you on that day. You will still get to do the same activities in the classroom as everyone else.

The videos will not show your face and no one will be able to see who you are in the videos. The video recordings will be kept very safe on a computer. This is something we will be very careful about, as we must follow special rules.

4. Will my parents have to do anything?

Your parents will help you read this information sheet. They will check that you are happy to be recorded in the classroom. They also have to give their permission.

5. What will happen after recording has finished?

After we record you, we will watch the videos and write down what you say so we can think about it very carefully. Then we will keep the videos somewhere safe. I may share some of the videos or things you say with other teachers so that they can learn more too. But don't worry, no one will know your name or see your face.

6. Do I have to say yes?

You should only say yes if you are happy for me to record things that you say and do when you are learning at school. If you say no, that's OK. You will still get to do all the same things. We just won't record you.

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Student Information Sheet

7. What will happen if I don't want to be part of the project?

If you say no, nothing will happen. You will still do all the same activities and lessons that everyone else in the classroom is doing. I just won't record anything you say or do.

8. Can I change my mind?

Yes, you can change your mind and choose to say no at any time, and nothing will happen. We won't keep any of the videos we have of you learning.

9. Do you have permission to record me while I am learning?

Yes, we do have permission. Here is the permission in the words of the university.

This project has been approved by the Human Research Ethics Committee of the University of New England (Approval No HE16-240 Valid to 18/10/17).

10. What if something upsetting happens?

If you feel worried at any time, you can talk to the school counsellor or another teacher that you know. Also, you can tell someone in your family that you feel upset and they can talk to someone at the university.

12. What if I have more questions about the project?

If you have questions, you can ask me, your teacher. You can also ask other teachers or your family for more information.

Thank you for reading about my project

☺

Mrs Bond