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A SECONDARY ANALYSIS OF GRADE 4 ENGLISH SPELLING ERRORS COMMITTED BY ISIZULU HOME LANGUAGE SPEAKING CHILDREN

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A research report submitted to the Wits School of Education, Faculty of Humanities, University of the Witwatersrand in partial fulfilment of the requirements for the degree of Master of Education

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ABSTRACT

It has emerged in the last decade that the South African schooling system is not producing adequate numbers of children who can read adequately for meaning. In the analysis that is emerging, we are beginning to understand not just the scale of the problem but the underlying causes of the problem. One of the ways the problem manifest itself is by understanding the difficulty children have in decoding words, which is evident when they attempt to spell words in English.

This study sets out to contribute to better understanding how spelling errors made by English second language speakers reveal some of the challenge's children face when learning new words. The analysis of the pattern of spelling errors might reveal the specific challenges and or problems that second language learners are having in learning to decode and encode in English. The study builds on the Reading Catch-Up Programme study, and the research undertaken by Fleisch et al., (2017) who analysed three-letter words from the same datasets emanating from the Reading Catch-Up Programme study. The three-letter words were limited as they did not provide enough insights into the challenges that the children have with blends and different versions of the vowel sounds.

This study is a secondary analysis that uses both qualitative and quantitative method, the study builds on the earlier research of the Reading Catch-up programme using the sub-sample of the datasets of 585 children's scripts out of a total of 2823 scripts. The analysis of the scripts required word segmentation and analysis of the errors in an attempt at making sense of the children's errors.

Building on the earlier research by Fleisch et al., (2017), the findings suggested that a significant portion of children are struggling with blends and different versions of vowel sounds, one of the possible interpretations of these patterns of spelling errors is that some children are non-alphabetic as their spelling errors do not make sense. While a large proportion of children are struggling with blends, diagraphs and more complex versions of the vowel sounds and there is a strong indication that was signalled in the

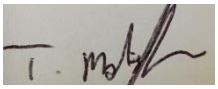
earlier research by Fleisch et al., (2017) and is confirmed in this study; which is that the patterns of errors committed by the children indicate that they are struggling to understand the alphabet system used in IsiZulu which is their home language and the one used in English resulting in the errors the children are making.

Keywords

Spelling; Decoding; Encoding; Home Language; First Additional Language; Incidental learning; Spelling errors

DECLARATION

I declare that this research report is my own, unaided work. It is being submitted in partial fulfilment of the requirements of the degree of Master of Education at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other university.



Tshepo Motsepe (Mr)

31st day of March in the year 2021

Dedicated to my late Mother and Grandmother.

To my wife – Zanele Motsepe and to my mentors,
Mary Metcalfe,
Dr Gill Atwood
and Gail Campbell.

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I wish to extend my sincere appreciation and gratitude to my supervisor, Prof Brahm Fleisch, for his patience and guidance during this long journey, and the Zenex Foundation for their support.

I am eternally grateful and appreciative to my family for their support and encouragement.

This research project is personal to me; it is an attempt to locate the real problem of learning in English, a challenge that faces millions of Black working-class children in the country.

We must not fail them.

CONTENTS

LIST OF FIGURES **viii**
LIST OF TABLES **ix**
LIST OF ACRONYMS **x**

CHAPTER 1: INTRODUCTION **1**
1.1 Background 1
1.2 Problem statement 2
1.3 Purpose of research 2
1.4 Research questions 3
1.5 Chapter outline 3
1.6 Significance of the study 4

CHAPTER 2: A REVIEW OF THE LITERATURE **5**
2.1 Introduction 5
2.2 Background and context 5
2.3 Spelling 6
2.4 Descriptive categorisation of errors 7
2.5 Gentry's developmental theory 9
2.5.1 Precommunicative stage 9
2.5.2 Semiphonetic stage 10
2.5.3 Phonetic stage 10
2.5.4 Transitional stage 11
2.5.5 Correct stage 12
2.6 Social-political analysis of spelling errors 13
2.7 Spanish children learning FAL English 16
2.8 South African research on spelling errors 18
2.9 Teaching reading in the South African classroom 19
2.10 Incidental learning 20
2.11 Incidental versus intentional learning 20
2.12 Analysis and conclusion**.** 21

CHAPTER 3: METHODOLOGY **24**
3.1 Introduction 24
3.2 Research approach 25
3.3 Data sources 25
3.4 Method 27
3.5 Levels of analysis 27
3.6 Validity and reliability 28
3.7 Ethics 29
3.8 Analysis techniques 29
3.9 Analysis of four-letter words 29
3.10 Limitations 30
3.11 Conclusion 30

CHAPTER 4: FINDINGS AND ANALYSIS **31**
4.1 Introduction 31
4.2 Word analysis and application 31
4.2.1 Analysis of the word /pots/ 32
4.2.2 Analysis of the word /camp/ 34
4.2.3 Analysis of the word /play/ 36
4.2.4 Analysis of the word /shut/ 38
4.2.5 Analysis of the word /bird/ 39
4.2.6 Analysis of the word /each/ 40
4.2.7 Analysis of the word /hurt/ 43
4.3 Conceptual framework analysis 43

CHAPTER 5: CONCLUSION **45**
5.1 Introduction 44
5.2 Discussion 46
5.2.1 Teaching letter mapping and sounds 46
5.2.2 Phonemes and teaching difficulties 47
5.2.3 Is Gentry's theory sufficient? 50
5.2.4 Incidental spellers 52
5.2.5 Cross-case analysis 53
5.2.6 Dual Language Teaching 55
5.3 Conclusion 56

APPENDIX A: COMMON ENGLISH FAL SPELLING ERRORS **59**
APPENDIX B: ETHICS APPROVAL LETTER **60**

REFERENCES **61**

LIST OF FIGURES

Figure 1: Spelling errors of the word /pots/ 32
Figure 2: Spelling errors of the word /camp/ 34
Figure 3: Spelling errors of the word /play/ 36
Figure 4: Spelling errors of the word /shut/ 37
Figure 5: Spelling errors of the word /bird/ 38
Figure 6: Spelling errors of the word /each/ 40
Figure 7: Spelling errors of the word /hurt/ 41

LIST OF TABLES

Table 1: Common four-letter word errors committed by FAL English children 29
Table 2: Definitions of word analysis terms 31
Table 3: Percentage analysis of the word /pots/ 32
Table 4: Percentage analysis of the word /camp/ 33
Table 5: Percentage analysis of the word /play/ 36
Table 6: Percentage analysis of the word /shut/ 37
Table 7: Percentage analysis of the word /bird/ 38
Table 8: Percentage analysis of the word /each/ 39
Table 9: Percentage analysis of the word /hurt/ 41
Table 10: Emerging error categories 43
Table 11: Error description and percentages of errors 54

LIST OF ACRONYMS

APP	Audio-Psycho-Phonology
CAPS	Curriculum and Assessment Policy Statement
DBE	Department of Basic Education
FAL	First Additional Language
GPLMS	Gauteng Primary Language and Mathematics Strategy
HL	Home Language
LoLT	Language of Learning and Teaching
NRS	National Reading Strategy
PIRLS	Progress in International Reading Literacy Study
RCT	Randomised Control Test
RCUP	Reading Catch-Up Programme
SACMEQ	Southern and Eastern Africa Consortium for Monitoring Educational Quality

CHAPTER 1: INTRODUCTION

1.1 Background

The crisis of education in South Africa is fundamentally a crisis of primary education (Fleisch, 2008). The early grade problem in schooling is a well-documented problem that has seen many children being taught early mathematics and language with varying degrees of pedagogical know-how. As the crisis deepens, many children continue to underachieve when compared with children in other countries and those who come from middle-class schools in South Africa.

Children in South Africa are not able to read for meaning (Howie, Combrinck, Roux, Tshele, Mokoena and McLeod Palane, 2016) and we need to ask ourselves why this is the case. The National Reading Strategy (NRS), spearheaded by the Department of Basic Education (DBE) (2008), highlights five factors (phonological awareness; phonics (letter sounds); fluency; vowels; and comprehension) that children need to master to read fluently. Children need to be familiar with and be taught how to decode English words to be able to master not only reading but the correct spelling of the words.

This study is based on a secondary analysis of data from the Reading Catch-Up Programme (RCUP) that was carried out in KwaZulu-Natal in 2014 (Fleisch, Taylor, Schoer and Mabogoane, 2015). As part of the programme, Grade 4 children in the Pinetown district participated in a spelling test of both simple and complex words. The number of children who were able to correctly spell these simple and complex words made the study interesting and revealed common threads that highlighted how the children were making sense of the two pathways to spelling. An additional insight emanating out of the spelling error analysis, which is not central to the core argument, is that early on the data indicates that first additional language (FAL) English speakers are constantly engaged in what is known as *incidental learning* and that Gentry's (1978)

model which is wholly suited for home language (HL) English speakers is insufficient in explaining spelling and reading development for FAL English children.

1.2 Problem statement

The relationship between spelling and reading is an important one as we understand spelling words correctly to be a precursor of reading. The number of children who continually struggle to read for meaning is a cause for concern and has been researched extensively. Research in this field suggests that we should focus our energy on teaching reading and, most importantly, making sure that children can correctly spell the words they have been taught. In determining empirical evidence of the existence of incidental learning, it has to be established whether FAL children pay attention to words that they don't use in their everyday life, for example, /hurt/ or /play/ and whether these words are words that the children interact with daily, hypothetically in their everyday interactions.

The percentage of children who spelt the words correctly in the Reading Catch-Up Programme spelling test, suggests that learning has taken place and that the children understand the alphabetic system. Moving forward, we now need to concern ourselves with how this learning takes place and what rules, if any, the children are following to construct these untaught words. We further need to establish what spelling techniques FAL English speakers use to master the correct spelling of these words. It is evident from the literature that the Gentry (1978) model and others focus on spelling errors made by HL English speakers and not FAL speakers.

1.3 Purpose of research

This research intends to understand the pattern and prevalence of spelling errors committed by FAL English children who misspelt simple and complex words during the Reading Catch-Up Programme spelling test.

1.4 Research questions

The research aims to understand the spelling errors that children committed and to further understand the meaning of these errors if the children are learning FAL English. The study is concerned with insights that could be gained from these errors in a long-term effort to improve literacy in the Foundation Phase.

The questions for this study are as follows:

1. What are the common types of spelling errors made by English first additional language children who are isiZulu home language speakers?
2. What are the patterns and prevalence of spelling errors for simple and complex words?
3. What percentage of children were incidentally able to spell simple and complex words correctly?

1.5 Chapter outline

The chapters that follow respond to the research questions stated above, namely, what are the common spelling errors, the quantum of the spelling errors and what method can be used to establish empirical facts about how FAL children learn how to spell English words.

Chapter 2 of this study reviews the literature that is dedicated to understanding the learning technique(s) FAL children use in learning to spell simple and complex English words and whether children are learning in context or through incidental learning and the Gentry (1978) model of learning to spell. This model is a stage theory model focusing and tracking children's spelling development in the early grades.

Chapter 3 gives an outline of the origins of the datasets and what methods are used to extract and make sense of the spelling errors made during the RCUP study.

Chapter 4 provides analyses of the spelling errors made by the children during the spelling test. An attempt is made to make sense of what these errors mean for future studies geared towards understanding the meaning behind spelling errors and how children develop reading and spelling abilities.

Chapter 5 provides a conclusion of the study. This includes a summary of the findings and implications for and the contribution to literature for future studies.

1.6 Significance of the study

This study seeks to extend earlier work that had been done by Fleisch, Pather and Motilal (2017) by looking at longer and more complex words and tries to establish whether the findings that have been developed can be extended to a new analysis of complex words. This study tries to understand how the majority of the children were able to spell some complex words correctly by analysing the spelling errors that were committed. The analysis of the errors will also look at how FAL children can be located within the Gentry (1978) stage theory of spelling development and whether the theory is sufficient for FAL English children. This is important as Gentry's (1978) spelling development theory is seen to only cater to HL English speakers (Fleisch et al., 2017).

The study also tries to understand why some children were able to spell complex words correctly. If this was a result of the words being used in their day-to-day interactions, it would indicate that those children have an incidental ability to learn new words. We can assume these new words are planted in their memory allowing them to remember either the sound or letters associated with the word.

The prevalence of common errors and common words being spelt correctly amongst the children in this study points to the existence of incidental learning of word formation, spelling techniques and rules that are applied to untaught words. The study also looks at how the children map and decode the letter sounds and what mapping activity they engage in, to spell the words.

CHAPTER 2: A REVIEW OF THE LITERATURE

2.1 Introduction

This section aims to review bodies of knowledge that have been developed since the early 20th century and that are focused on the analysis of spelling errors committed by children in the early grades. The first analysis looks at the descriptive categorisation of errors by Kallom (1917, as cited in Wolff, 1952). The analysis moves on to the ultimate developmental theory in education by reviewing Gentry's (1978) stage theory model that documents how home language English children develop correct spelling techniques by analysing their errors. This section will also review the social-political analysis of spelling errors by Groff (1973) and will explore spelling errors committed through incidental and intentional learning.

2.2 Background and context

Increasing levels of inequality borne out of the history of apartheid education have had an impact on generations of school-going children mostly in poor and Black households and particularly when it comes to achieving acceptable literacy levels during their schooling careers. In one of his seminal work, titled *Primary School in Crisis*, Fleisch (2008) analysed literacy research in South Africa's post-apartheid era. This important analysis highlighted the urgency with which we ought to attend to the worrying situation of children in the early grades not being able to read for meaning and the fact that this problem continues to compound inequity in the South African schooling system and perpetuates unequal outcomes. Since 2002, several evaluations and research projects have been undertaken by the Department of Basic Education (previously National Department of Education) and highlighted the problems of reading in the early grades. These include the much-talked-about Progress in International Reading Levels Study (PIRLS) which is an international study and the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) project. The PIRLS signalled that South Africa has difficulty in attaining internationally acceptable reading levels in the early grades but these results did not provide reasons as to why this is the case. Howie et al., (2017)

confirmed that apartheid had sought to achieve the dumbing down of mostly Black children through Bantu Education by not teaching them to read for meaning. In the PIRLS study, it was confirmed that the ability of South African children in Grade 5 to read for meaning was lower than that of children in Grade 4 in other countries that participated in the study. While many factors contribute to this worrying trend, the need to investigate and understand why children are struggling to read for meaning is important because such research would allow for the development of impactful interventions that seek to reimagine the schooling system when it comes to teaching children to read for meaning.

2.3 Spelling

Treiman and Bourassa (2000, as cited in Busakwe, 2019) were of the view that the development of spelling in English has largely been influenced by the nature of the writing system and theories of learning. In outlining the complex nature of the English writing system, Busakwe (2019) citing the work of Dixon (1994, as cited in Simonsen and Gunter, 2001) noted that the English writing system has been viewed as a complex and illogical writing system, with the alphabet system comprising of 26 letters, 44 phonemes and 500 spelling choices.

Busakwe (2019) focused on two approaches to spelling, one was the stage theory as developed by Gentry (1982) and the other approach she called the strategy approach where she argued that spelling should be seen as continuous and that young children possess the ability to incorporate orthographic and morphological information in learning how to spell. The ability to spell correctly is an important feature of children being able to read at an acceptable level as they develop in the early years.

2.4 Descriptive categorisation of errors

Kallom (1917, as cited in Wolff, 1952) was one of the earliest researchers interested in spelling error categorisations. He saw the ability of children to develop correct spelling techniques as a mechanical process and he argued that "spelling is an act of seeing or hearing accurately what may be written or spoken, and translating that visual or aural image into motor activity" (Kallom, 1917, as cited in Wolff, 1952). In the early 1950s, scholarly works had developed error categorisation for White, middle-class children. The frameworks that were later developed highlighted important features that were needed to strengthen reading and writing in the classroom and for the development of the child. In the late 1970s to 1980s, a new movement of scholarly work started to emerge that acknowledged the importance of developing frameworks that sought to make sense of children's spelling errors. The scholarly work in the 1980s focused on the need to shift away from using frameworks to categorise spelling errors that favour HL English speakers, but to rather develop new frameworks that cater for broad racial groupings particularly African-American students in the United States.

Gentry's (1978) theory is premised on the view that learning how to spell is more than mechanical – it is also an innate process that happens in children as they develop and engage with techniques that foster word recognition and processing. Gentry (1978, p. 88) stated that "Long before children enter school, they learn the fundamentals of the language and its use. Long before formal instruction, preschool children learn to use grammar to string words in sentences." This is a clear indication that by the time children attend formal schooling they hold extensive forms of knowledge which they use to adapt to the changes that the classroom requires of them. Gentry (1978) went further in outlining his argument about children not being *tabula rasa* by stating that by the time children enter school they learn to use grammar to string words into sentences.

Gentry (1978) unpacked these early years by arguing that language development proceeds from the simple to the complex and that spelling development may have the same pattern as language development. Children do not all learn spelling in the same way, but researchers have found that processes or strategies of learning to spell develop in

roughly the same sequence for all children. “During the early stages of learning to read, the spelling that children use vary and are a product of several different strategies” (Gentry, 1978, p. 4). Such strategies involve specific patterns of spelling errors that highlight word recognition and sound familiarity. By design, children’s spelling development requires not only sufficient stimuli in the form of learning how to spell but we must also take into cognisance the type of learning that children are exposed to and how they learn how to spell.

Beers and Henderson (1977, as cited in Gentry, 1978) undertook a study that looked at strategies used by first grade children who were learning to spell new words. The researchers concluded that children develop a spelling pattern that progresses from what they called primitive attempts to the correct form of the word. In one of the tests in the study, the children omitted the vowel or would use a letter-name to represent the sound. Beers and Henderson (1977, as cited in Gentry, 1978) together with Gentry (1978) believed that “learning to spell is not simply a matter of memorizing words but in large measure a consequence of developing cognitive strategies for dealing with English orthography.”

In his later work, Gentry (1982) identified five stages of spelling development and provided suggestions on how spelling can be nurtured in the classroom. Each of the five stages represents a different understanding of English orthography and they are: precommunicative spelling, semiphonetic spelling, phonetic spelling, transitional spelling and correct spelling (Gentry, 1982). For Gentry (1982) the interpretation of errors was an indication of a developmental stage in learning how to spell correctly in the overall learning development of children. Gentry (1982) outlined how children progressed through the five stages of spelling as outlined below. Hill (2008, as cited in Busakwe, 2019) made an important observation about spelling stage theories, which was that as children’s spelling developed they did not necessarily follow a sequential process and that their spelling development can go back and forth between the stages.

2.5 Gentry's developmental theory

2.5.1 Precommunicative stage

Gentry (1978) identified the precommunicative stage of spelling development as the stage in which the child uses symbols from the alphabet to represent words. According to Gibson and Levin (1975, as cited in Gentry, 1982), it is important to note that pen handling and scribbling, from as early as 18 months of age, are considered the start of learning to write.

In the precommunicative stage, Gentry (1982) outlined the following behaviours that characterise a child learning how to spell words:

1. The child is expected to demonstrate knowledge of the alphabet through the production of the letterforms to represent a message
2. The child demonstrates no knowledge of the letter-sound correspondence and the child's spelling attempts appear to be random stringing together of letters of the alphabet which the child can produce in written form
3. The child may not be aware of the principle of left-to-right directionality for English spelling
4. The child may include number symbols as part of the spelling of a word
5. The child's level of alphabet knowledge may range from much repetition of a few known alphabetic symbols to the substantial production of a letter of the alphabet
6. The indiscriminate mixing of uppercase and lowercase letters by the child
7. The child is prone to show a preference for uppercase letters in the early stages of writing

What we can conclude about the precommunicative stage is that spelling attempts are not readable and the child at this stage operates from a lack of knowledge about letter-sound correspondence. These initial attempts, however, are important indicators that represent the child's concept of words. The precommunicative stage is considered the natural early expression of the child's initial hypotheses about how alphabetic symbols represent words.

2.5.2 Semiphonetic stage

The second stage of spelling development identified by Gentry (1982) is called the semiphonetic stage. This stage concerns itself with letter-sound correspondence and the child at this stage is concerned with alphabetic principles. Gentry (1982) identified six conditions that need to be met for a child to be considered to be at the semiphonetic stage:

1. The child should start to understand that letters have sounds that are used to represent the sound in words
2. The child uses one, two or three letters to represent the whole word although only partially
3. A letter-name strategy should be evident and, where possible, represent words, sounds or syllables with letters that match their letter names
4. The child should begin to grasp the left-to-right sequential arrangement of letters in English orthography
5. Alphabet knowledge and mastery of letter formation should become more complete
6. Word segmentation may or may not be evidenced at this stage

2.5.3 Phonetic stage

This stage has been widely documented and Gentry (1982) documented literature that dates from 1975 to his theory of 1981. Based on children's phonetic spelling lists, the documentation reported on 80 phenotypes with some reflecting obscure details of phonetic form. Inventive words spelt by the children were documented and some did not conform to English spelling for all sounds. In some cases, the phonetic spellings were readable and adhered to the four conditions for this stage that Gentry (1982) identified below:

1. At this stage the child should be able to provide a total mapping of letter-sound correspondence and all the surface sound features of the words being spelt should be represented in the spelling

2. Children should now have developed a systemic way of spelling specific phonetic forms, namely tense, vowels, preconsonantal nasals and syllabic sonorants
3. Letters should now be assigned based on sound and no regard should be paid for acceptable English letter sequence or other conventions of English orthography
4. Lastly, word segmentation and spatial orientation are generally, but not always, evidenced during this stage

Gentry (1982) listed cognitive awareness of the English orthography development in children and the need to allow children to invent their spelling during their progression through the phonetic stage. Such awareness is strengthened by the awareness of the conventions of English spelling that help children emerge into the fourth stage known as the transitional stage in which errors take the form of writing the letters in reverse (e.g. *huose – house*).

2.5.4 Transitional stage

Gentry (1982) stated that, during the transitional stage, the child starts to assimilate the conventional replacements for representing sounds. The child undergoes a transition from reliance on phonology or sound representing words in the printed form to a greater reliance on visual and morphological representations. Children who are learning to spell at this stage are said to exhibit the following characteristics according to Gentry (1982):

1. Transitional spellers adhere to basic conventions of English orthography – vowels appear in every syllable
2. Transitional spellers present the first evidence of a new visual strategy and the child is said to move from phonological to morphological and visual spelling
3. Due to the child's new visual strategy, they may include all appropriate letters but some of these letters may be used in reverse
4. Transitional spellers in most cases have not fully developed the use of all factors identified by researchers that have contributed to spelling competencies in children
5. Transitional spellers are known for differentiating alternate spellings for the same sound (e.g. *eighte – eighty*)

6. Lastly, transitional spellers tend to use learnt or known words that can be spelt correctly more frequently in their writing

Gentry (1982) made an important observation in his study that the analysis of errors provided stems of information obtained from misspelt words. According to him, it is the errors that children commit that provide us with the much-needed insight into to how children learn to spell words. Gentry (1982) further argued that developmental spelling stages may be determined only by observing spelling errors and not by analysing words that are spelt correctly.

2.5.5 Correct stage

At this stage, the child is said to have reached a stage where miscues are relatively infrequent. The correct stage (Gentry, 1982) is viewed from an instructional scheme rather than the developmental scheme because of the limited spelling research available for children beyond the ages of 8 or 9. According to Gentry (1982), this might be because major cognitive changes for spelling competency are accomplished by the end of the transitional stage and that anything beyond this stage is an extension of existing strategies. Allen and Ager (1965, as cited in Gentry, 1982) argued that formal spelling instruction facilitates spelling growth once the child gets into the transitional stage. Furthermore, formal instruction allows the child to continue to learn from being attentive and interested in spelling through to writing experiences. During this stage, a child is expected to exhibit eight characteristics of the developmentally correct speller:

1. The child has a firmly established knowledge of the English orthographic system
2. The child now extends their knowledge of word environmental constraints
3. The child now shows an extended knowledge of word structure including accurate spelling of prefixes, suffixes and compounds and also shows the ability to distinguish homonyms
4. The child demonstrates growing accuracy in using silent consonants and in doubling consonants appropriately

5. The child can think of alternative spellings and can use visual identification of misspelt words as a correction strategy, that is, the child now recognises when words don't look right
6. The child continues to master uncommon alternative patterns (e.g. /*ie/ – /ei*/) and words with irregular spellings
7. The child continues to master morphological structures
8. The child increases the number of learnt words she/he uses

We should note however that the change from one spelling stage to the next is more or less gradual and, in some cases, Gentry (1982) argued that more than one stage can coexist in a particular sample of writing as the child moves from one stage to the next. Gentry (1982) further stated that as spelling develops, children draw increasingly from alternative strategies which are phonological, visual and morphological.

From the above analysis, we can conclude that learning to spell is a complex developmental process that begins at pre-school and continues into primary school. Spelling errors can be identified by classifying the nature of the errors into one of the five stages identified by Gentry (1982). Spelling competency can be improved by increased spelling activity using different kinds of cognitive strategies. For Gentry (1982) focusing on spelling improves reading comprehension, and reading comprehension improves spelling. These two are not mutually exclusive and are vital for learning.

2.6 Social-political analysis of spelling errors

In the 1970s, the literature opened up to the recognition that there is a political and/or economic basis for spelling errors, influenced by a broader social theory that gained prominence in the late 1970s. Bourdieu's (1977) cultural capital theory looked at the symbolic power of education and brought to the fore the need to understand education relative to a person's class in society. A cultural capital analyst would argue that the value associated with speech and writing cannot be understood separate from the class position of the person who speaks or writes. These activities are embedded in larger networks of

social relationships – many of which may be unequally structured. This inequality and insufficiency are noticeable in how words are pronounced and spelt by people.

Groff (1973) studied children's spelling as a feature of Black English in the US. He was interested in the extent to which children who speak minority dialects, such as Black English, make dialect-related spelling errors. Groff (1973) and Kligman, Cronnell and Verna (1972) affirmed the influence of dialects on spelling errors made by African American children and they suggested the likelihood of the effect of a child's dialect on their spelling. This was a significant study as most previous spelling error studies had looked at Spanish-speaking children while this study focused was on African-American children. In his conclusion, Groff (1973) concurred with Kligman et al., (1972) that only selected features of Black English caused enough difficulty to justify any pedagogical concern. This means that during teaching, the teachers' English dialect does not have any impact on the children's ability to learn new English words.

Groff (1973) further linked spelling errors attributed to dialect to the children's economic status. He found that the economic status of Black children had some effect on their spelling of words. Black children from higher-income families exhibited less use of nonstandard dialects than Black children from low-income families. Nonstandard dialects are commonly used in low-income families. In an extended study on Black English, Cronnell (2015) focused on errors that were found in writing samples of Grade 6 Black children in a low-income neighbourhood. What emerged was that socioeconomic position did not affect spelling ability.

One of the scholars that began to reflect on the social and political nature of spelling was Treiman (2004) who argued that different languages develop different ways of spelling. "Studies of English spelling-to-sound correspondences paint a gloomy picture: many letters and letter groups, even those at the beginning of words, can be pronounced in more than one way" (Treiman, 2004). This is significant as it considers how English as a language has evolved in different cultural or racial groups, and to continue using a single yardstick and models like the Gentry (1982) stage theory is to cater for HL English speakers. These models as a measure of spelling development are not sufficient and are

exclusionary to those who are not HL English speakers. The Treiman (2004) study further found that African-Americans in the United States lagged behind other groups in literacy skills.

In her conclusion, Treiman (2004) suggested that the results of her study have implications for social issues as well as for the processes involved in spelling development that lead to the ability to read for meaning.

Patton-Terry and Connor (2010), in their study that focused on African-American English and spelling, began with the assumption that "linguistic variation should be considered in the differential diagnosis of spelling disorders among African-American children." This was because they acknowledged that all people who began to spell words were faced with the challenge of mapping their speech patterns to print. In Patton-Terry and Connor's study (2010) they identified challenges confronted by African-American children that arose as a result of dialect. They also noted that the difficulty that African-American children in schools faced was the nature and quality of the spelling instruction the children received. They assumed that, like in the South African context, because some teachers who are expected to teach English are not home language speakers, the quality of their spelling instructions was weak. Patton-Terry and Connor (2010) conclude that "young children's spelling performances related to spoken dialect differences in the production of phonological and morphological forms." They consider the focus on spelling to be much more important than reading and they contend that teaching spelling skills is far more important than teaching reading. The critical question to ask is: Should children learn to read words they cannot spell, or should they learn to spell the words which they can read?

Patton-Terry and Connor (2010, p. 209) further made an astonishing claim that "spelling perhaps even more so than reading, provides a revealing representation of children's knowledge of speech." This knowledge of speech privileges those who have sufficient cultural capital and excludes those without it. In their social analysis study, Patton-Terry and Connor (2010) focused on the influences of spelling and dialect and revealed how

upward social mobility is closely linked to how words are spelt by African-American vernacular English and White English speakers.

2.7 Spanish children learning FAL English

There has been a growing recognition that the Gentry (1982) framework doesn't work for bilingual secondary language children, particularly for children whose HL is Spanish. This section focuses on Spanish children and explores how the language issue influences the direction of the literature.

Learning English as a FAL is complicated by the sound system of English words which influences writing behaviour, especially spelling (Helman, 2004). To counter this and support learning, teachers who have a background and understanding of the Spanish language effectively have more tools in their possession to scaffold instruction for Spanish-speaking children. Helman (2004) identified the importance of sound for Spanish children learning to read and write in English by using Ehri's (1997) developmental approach to learning which highlights three stages – partial alphabetic, full alphabetic and consolidated alphabetic – to improve children's spelling patterns over time.

Helman (2004) identified three sound systems that are important for Spanish children when learning English and contended that the Spanish and English sound systems share many of the same phonemes but contain sounds that are not distinctly recognisable in other languages.

Helman (2004) identified the consonant sound, vowel sound and positioning of sound as key in the development of correct spelling patterns for Spanish children learning English in the US. He contended that many similarities exist in the Spanish and English languages and each language contains sounds that are common but also sounds that are distinct. There is some commonality between English and Spanish and he stated that the two languages share many similar consonant sounds that are spelt differently and that there are similar consonant clusters/blends between Spanish and English. One example is the pronunciation of the letter /r/. It is pronounced differently in English and Spanish, but the

blends used in both languages offer support and familiarity for the Spanish speaking child when learning English.

The most distinct consonant-sound differences between Spanish and English consist of phonemes and blends that are present in Spanish and these are most likely to cause problems when the child learns English. Consonant blends have been identified by Helman (2004) as the beginning of some level of difficulty for Spanish children when learning English as the Spanish language does not allow or accommodate /*s*/ blends and they add an /*e*/ to the beginning of many words.

Helman (2004) identified the Spanish vowel sounds as being the simplest when compared to those of the English system. There are commonalities and the most frequently used vowel sounds are those letters that sound the same but are different when written. The most common vowel error was the confusion between the letter /e/ and /a/. When attempting words that have the long /a/, Spanish students may revert to writing the letter /e/ which when spoken sounds the same as the long /a/.

The most common difference between English and Spanish is that Spanish words have only one sound per vowel. The addition of complex English vowel sounds makes Spanish children commit errors when attempting to spell these words as they revert to writing words as they hear them. Sound systems during teaching and learning also have implications for instruction. Teachers, as highlighted by Helman (2004), ought to focus on teaching or starting with commonalities between the English and Spanish languages as it is helpful to build on what is common to the languages. Helman (2004) argued that it is important that Spanish children learning English ought to be assessed on their developmental spelling and through this assessment teachers will gain an understanding of the children's foundational needs to learn English.

In her analysis and contribution, Helman (2004) maintained that teachers play an important role in the development and mastery of English spelling and reading. The more teachers know about their students' HL as a platform to build from, the more they will be able to give clear instructions and support to their students. Helman (2004) highlighted

the importance of understanding what Spanish children are bringing to the table as they learn to read and write in English despite the similarities between the sound systems of the English and Spanish language.

2.8 South African research on spelling errors

In their study on errors made by South African FAL English speaking children, Fleisch et al., (2017) maintained that studies that have been undertaken in this field have provided researchers with an understanding of the patterns of spelling errors and most importantly have highlighted the need to diversify how vocabulary, reading and spelling are taught. What these studies lack, is an explanation of how the unconscious learning of words can be used in the classroom to enhance spelling and learning or the significance of how to make sense of the spelling errors made by FAL children as observed in their study. Furthermore, in their critique of the Gentry model, Fleisch et al. (2017) highlighted how limiting the use of the developmental stage theory is because it does not provide an adequate account of the patterns of spelling errors for FAL English speakers. The model is focused on HL English speakers. This study is crucial to the development of error analysis methods that is suitable and applicable for English first additional language children, this study is crucial in that way. By analysing the children's spelling patterns, we are able to understand how children who are exposed to two or more languages develop correct English spelling techniques for teaching and learning.

Incidental learning for its own sake does not foster learning, rather it fosters survival. Research needs to be done that will result in incidental learning and/or unconscious learning of vocabulary or spelling becoming part of our children's daily lives (Fleisch et al., 2017).

The evolution of correct spelling in children as documented by Gentry (1982) and others is concerned with the evolution of HL English spelling and this evolution, as stated above, does not accommodate FAL children who make spelling errors like the ones seen in the RCUP study (Fleisch et al., 2015).

What is equally important in the acquisition of a new language, is the transition that children have to make between their HL and the FAL that will most likely be used for teaching and learning purposes. What is needed for FAL speakers is an explicit theory that details the transition and error categorisation that FAL English speakers make when learning to spell words. While many researchers contend that processes and strategies of learning to spell develop in the same sequence in all children, no plausible argument exists that supports this assertion for FAL English speakers, particularly for Black English speakers.

2.9 Teaching reading in the South African classroom

Brink, Motolo and Henning (2020) looked at the teaching of reading in Grade 3 in six Mpumalanga schools. The research was focused on reading and the utilisation of reading materials provided by the DBE and highlighted significant insights into how teachers teach reading for meaning in FAL English. One of the problems in learning to read in English immediately after having to learn to read in isiZulu is that "English and isiZulu have very different orthographies. In KwaZulu-Natal, many children attempt to develop reading skills in both these languages simultaneously, and most of them fail to learn to read" (Brink et al., 2020, p. 4). This compounding problem faced by children who transition from learning to read in their HL (isiZulu) and reading to learning in FAL (English) is one of the many educational challenges facing the South African classroom in the early grades.

In their study, Brink et al., (2020) observed reading lessons which indicated how teachers were struggling to bridge the children's HL which has thus far facilitated the development of their reading skills to learning to read in English. Brink et al., (2020) defined this bridge as the "phonological bridge" that needs to happen between the children's HL to FAL to learn to read for meaning. The learning of a new language used for teaching and learning purposes, in this case, English, requires that sufficient decoding exists of the English words to map the letter sounds. This is supported by Brink et al. (2020, p. 22) when they observed that "reading success in a second language hinges on the quality of the auditory text which the learner is exposed to." This exposure is crucial and as this role is facilitated by teachers during classroom lessons, the teacher's ability to pronounce words and the

letters associated with those words is important for the leaners decoding and mapping ability of the English words.

2.10 Incidental learning

Krashen (1989) contended that students subconsciously acquire rules for word formation and spelling from lists and exercises and apply these acquired rules to untaught words. While possible, it is doubtful that much acquisition occurs under unconscious or incidental conditions. Several studies using a similar paradigm of learning confirm that both vocabulary and spelling can be acquired by reading for meaning. In Krashen's (1989) study, it was concluded that when an unfamiliar word was constantly seen in print by the children, there was a small and statistically reliable increase in word knowledge. The research suggested that not all words could be learnt once they are seen in context and that some words could also be learnt incidentally. Of interest in the Krashen (1989) study was the observation that uninstructed children were considered to be behind at Grades 3 and 4, while those children who received spelling instructions proved to be performing at a grade-appropriate level.

Krashen (1989) contended that a consistent focus on spelling yielded no results. What is known from other studies is that HL and FAL speakers of a language mastered large complex systems of vocabulary and spelling without being forced to spell correctly. According to Krashen (1989), following spelling rules in an attempt to spell a word correctly will lead to incorrect spelling more than 50% of the time. So following spelling rules is an unreliable pathway to spell words correctly especially words that children are not familiar with or accustomed to interacting with daily (Krashen, 1989). The complexity of English spelling and the failure by teachers to explain spelling techniques adequately lead to a hypothesis that suggested that competent spellers acquire spelling knowledge by constantly reading and learning new words. According to this hypothesis, we can predict that good spellers do not know the rules and that the bad spellers remember the rules incorrectly as taught by their teachers.

2.11 Incidental versus intentional learning

Hulstijn (2002) defined incidental learning as the learning of formal features through focused attention on semantic features. In other words, incidental learning is the learning of one thing (e.g. grammar) when the child's primary objective is to do something else (e.g. communicate). A definition by Gass (1999, as cited in Hulstijn, 2002) expanded on the previous definition of incidental learning of grammar by stating that it is the learning of grammatical structures without exposure to instances of these structures.

Most FAL learning researchers, including Krashen (1989) have used incidental learning in connection with the learning of vocabulary through reading. Krashen (1989) argued that we acquire vocabulary and spelling through exposure to comprehensible input.

In the literature on vocabulary learning, incidental learning is commonly given a cognitive interpretation like the rehearsal and memorising techniques used by children when they have the explicit intention to learn and retain lexical information (Schmitt, 1997, as cited in Hulstijn, 2002).

To distinguish between intentional and incidental learning, Hulstijn (2002) described implicit and explicit learning. Implicit learning is linked to incidental learning as a process by which children acquire competencies incidentally, i.e. by not paying attention to what is being internalised such words are then stored implicitly. Explicit learning is understood to involve awareness at the point of learning, i.e. intentional learning which involves a deliberate attempt to commit new information into memory.

For intentional learning, attention is deliberately directed at committing new information to memory, whereas the involvement of attention is not deliberately geared towards an articulated learning goal in the case of incidental learning.

2.12 Analysis and conclusion

The literature in this study has looked at a hundred years of research into spelling errors. The research started by first attempting to understand the letter-sound relationship (phonics) and was followed by Gentry's (1978) model that assumed children follow a natural evolution process of spelling development. He observed children's development from the precommunicative stage (pre-spelling) through to the correct stage. In the 1970s, new research emerged that suggested that it is not simply a developmental stage problem and that spelling errors may be a cultural-linguistic problem that is linked to the sound-letter relationship. This however was found to have minimal impact on how African American children learn to spell in English.

The literature on Spanish children dealt with how children understood English letter-sound relationships. Spanish children, like isiZulu children, are learning new and unique characters that are unfamiliar and not linked to the English letter sounds. Spanish has a transparent vowel sound, like isiZulu, and it was noted that children constantly inserted the letter /i/ to words they attempted to spell. There are unique characteristics linked to the transitioning of learning a new language.

To better understand some of the challenges that FAL English speakers face, there is a need to focus on the impact of different dialects and how sound is understood. It is necessary to understand why, in the teaching of English to FAL speakers, dialect does not have any influence in the learning of the FAL (in this case, English).

In South Africa, there has been the development of spelling analysis (Fleisch et al., 2017) that looks at the analysis of simple words. In this study, we look at what can be learnt when analysing complex words. Fleisch et al., (2017) analysed three-letter words but to broaden the understanding in this field, there is a need to look at more complex words to gain more insight into the spelling errors.

This study is a contribution to this growing but relatively undeveloped field by providing new insights into categories of spelling errors and incidental learning by analysing English spelling errors.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter discusses what a secondary analysis is and will highlight the use of existing datasets. The chapter will also discuss the use of qualitative and quantitative methods for the analysis of the errors. The method of analysis, the origin of the datasets and the level of analysis in formulating an error framework will also be discussed. Lastly, this chapter will outline the validity and reliability of the data and ethical considerations.

This is a secondary analysis study that used existing datasets to complete the research process. The study required a combination of qualitative and quantitative approaches. The methodology of the study allowed me, as the researcher, to seek answers by applying various strategies to find the relevant answers. To uncover unknown spelling error types and/or categories, I made use of a relatively open-ended reading of a large but sufficient number of test artefacts to establish the frequency with which these errors occurred and how the children were able to arrive at spelling words incorrectly or correctly. For purposes of this process, a quantitative approach was adopted as a means of analysis.

3.2 Research approach

This study is both a qualitative and quantitative design on the same data as used by Fleisch et al., (2017). Most studies are either qualitative, quantitative or a mixed-method study, but this study is none of those as it uses both methods coupled with an analytical method of looking at the data.

Hancock, Windridge and Ockleford (2007) developed explanations of social phenomena and outlined methods of research which aimed to help us understand the social world we live in and why things are the way they are. In this case, their qualitative approach helped me answer various questions regarding language errors that were made by the children. This approach further helped me answer questions on why the children made those errors

while attempting to spell the four-letter words correctly and how those errors can be avoided if possible.

The study further uses the quantitative research approach which Scott and Morrison (2006) defined as a set of assumptions that seek to apply the natural science model of research to the investigation of the educational world. The existing test scripts were not designed for picking up spelling errors but these test scripts have given us a set of assumptions that could be applied in understanding the frequency of spelling errors that were made by the children and, where possible, how they committed the errors they made during the test.

In summary, this study is both qualitative and quantitative, in that it focuses on trying to make sense of why the children committed the spelling errors they committed and at the same time, the study concerns itself with quantifying these errors and using established theory to try and make sense of the errors and what they would mean for learning.

3.3 Data sources

The original study that the data comes from was the result of an intervention that tested children's literacy levels as part of a randomised control test (RCT). The Reading Catch-Up Study was a large-scale trial of a system-wide remedial programme initially designed as part of the Gauteng Primary Language and Mathematics Strategy (GPLMS) aimed at closing gaps in children's literacy and mathematics knowledge (Fleisch et al., 2017). The reading catch-up programme (RCUP) was an intervention that was targeted at underperforming schools in the Pinetown district in KwaZulu-Natal. It was a study of a particular intervention model and to ascertain whether the intervention model worked. Testing was done on the children with a testing model that consisted of many elements including a spelling test. For my study, I was not interested in the intervention nor the other parts of the test. My interest was in the spelling component because I believe there is something about the spelling errors that indicates a phonological problem we are facing in education in South Africa.

This intervention was a classroom intervention that aimed to ensure that the data collected would reflect broad issues that existed or were experienced by Grade 4 children in the English language. Moreover, the purpose of the study was to build on existing knowledge and provide insight that was focused on patterns of spelling errors and their prevalence and what relationship existed between the children's spelling errors and their underachievement in reading (Fleisch et al., 2017).

The Pinetown RCUP that was carried out in 2014 (Fleisch et al., 2015), was developed to strengthen the English skills of children in Grade 4. The children were not HL English speakers, but they were expected to learn using English as the language of instruction from Grade 4 as per DBE policy on language.

There were 2 823 scripts in the original study, to achieve 95% confidence level. For this study, 585 scripts were opportunistically selected and were remarked and recorded to achieve an investigation of 21% confidence interval.

The Pinetown RCUP focused on schools where children had to transition to English as the language of instruction after using their HL in the Foundation Phase or the first three years of schooling as per the DBE policy. This language transition is highlighted in the DBE's Curriculum and Assessment Policy Statement (CAPS) which notes the following: "In South Africa, many children start using their additional language, English, as the language of learning and teaching (LoLT) in Grade 4." (CAPS, 2010, p.11)

The RCUP was implemented in 40 schools by administering an RCT in 2014, with a control group of 60 schools. The data collected was evaluated by an evaluation agency that was not privy to which schools were in the intervention group versus the control group. This intervention lasted for 11 weeks with the assistance of on-site teacher support provided by reading coaches, the provision of scripted lesson plans and additional graded reading books.

The main Reading Catch-Up Programme followed a secondary analysis and yielded several important results about the intervention and also raised some important educational research questions which were important to understand: How and why were

the spelling errors that were evident in the children's spelling scrips committed? Did the children have the ability to make the language transition? How were the children making sense of this transition in Grade 4?

3.4 Method

The method that was employed to satisfy the objectives of this study was secondary data analysis. A secondary data analysis involved utilising existing data that was collected for a prior study to pursue a research interest which is distinct from that of the original study. This could be a new research question or an alternative perspective of the original question (Hinds, Vogel and Clarke-Steffen, 1997). The original study design by Fleisch et al., (2017) used the same set of data drawn from an RCT. The original study was a large-scale study that was designed in terms of reading and literacy as required by the CAPS curriculum. The RCUP study was designed as a strategy to minimise the learning gaps in Grade 4 children in Mathematics and English as set out in the CAPS.

The secondary data analysis, as an overall instrument of analysis, provided me, as the researcher, with an opportunity to gain new insights into the patterns of spelling errors and allowed me to analyse the scripts according to emerging trends of spelling errors made during the test on four-letter words. For this research, approximately 585 scripts were collected from the RCUP study and were analysed. The analysis entailed coding spelling errors that children made and grouping the errors according to the frequency of the errors using headings to classify the types of errors that were made during the RCUP spelling test.

3.5 Levels of analysis

Phase 1 of the data analysis looked at generating the categories of errors committed by the children. A framework influenced by Gentry (1978) was used to analyse the errors that the children had made during the 2014 RCUP test. In Phase 2, markers were trained to make use of the Gentry framework to classify the spelling errors and their frequency

and record their results in a table format. The markers captured the types of errors that the children had made while attempting to spell four-letter words.

Using the Gentry framework, the four-letter-word errors were analysed for consistency and reliability to ensure that the results reflected the reality of the types of spelling errors that were made by the children and to make meaningful interpretations of these errors. The errors were coded and every second script was double marked to check for consistency.

A frequency table was developed to check and trace the four-letter words that were consistently being misspelt and the same errors that were being committed. With the error frequency table, words were grouped under the following headings as percentages: correct, vowel error, missing letters or addition of letters.

3.6 Validity and reliability

According to Scott and Morrison (2006) validity refers to the measure of accuracy and whether it matches reality. The scripts that were collected and analysed reflected 22% of the total scripts that were used in the original RCUP study.

Reliability of data means obtaining the same results on two or more separate occasions when the assumption is made that the object being measured has not changed. For this research, in the first pilot stage, an error framework was designed to test and elaborate on the types of errors. On a larger scale, randomly selected tests were marked and a calculation of the frequency of errors was documented drawing from the initial error framework designed for purpose of the RCUP study.

For this study, validity and reliability were heightened as a result of previous studies that had used the same scripts. Most importantly, new error categories were formulated and new words were analysed to avoid arriving at the same conclusions and/or using the same words as the previous studies. To ensure that the study remained independent of previous studies, an opportunistic selection method was used for script selection. Coupled with this

process was the fact that the researcher had not participated in the original study, the analysis of the data, the selection of schools or visits to the schools that participated in the study and so this data remained new to the researcher.

3.7 Ethics

No ethical issues arose in this research because the scripts had already been part of a study where all ethical considerations were considered. An ethical approach has however been maintained by not including names, surnames or identities of the participants or the names of their schools in the data analysis section. Appendix B is attached which is a letter from the faculty responding to the research proposal and approving the undertaking this study.

3.8 Analysis techniques

The analysis of the scripts as part of the research required the employment of two isiZulu-speaking students in their final year of Foundation Phase teacher training. They assisted with the grouping and coding using the framework of error categorisation of the scripts which enabled the researcher to develop a table of errors for the four-letter words that the children had struggled with. The students were required to re-mark and collate the scripts to classify the four-letter errors committed by the children.

3.9 Analysis of four-letter words

Table 1 depicts the four-letter words that were analysed as part of this study. The words, sentences and errors are from the RCUP study of 2014 (Fleisch, 2015). A complete list of words that were used during the 2014 RCUP study is included in Appendix A at the end of this thesis. Within this qualitative analysis, I used individual examples of the children's errors and analysed them to better understand the nuances of the challenges that the children in this study were faced with.

Table 1: Common four-letter word errors committed by FAL English children.

	Word	Sentence	Error
1	bird	The *bird* flew to its nest.	r, i-e-a confusion
2	camp	We use a tent when we *camp*.	k-c confusion; mp blend
3	each	*Each* child has two sweets.	ea and ch
4	hurt	I fell and *hurt* my knee.	r, u-a confusion
5	play	I like to *play* soccer.	a-e vowel confusion
6	pots	I cook my food in *pots*.	singular not plural
7	shut	Keep the door *shut*.	sh; u-e confusion

Source: Fleisch et al., 2017

3.10 Limitations

A weakness in the research was the opportunistic selection of scripts. Without the researcher knowing how the scripts were packed after the initial study, this selection might have an impact on the results of the analysis.

One of the major strengths of this research was the quality and upkeep of the data. The scripts remained relevant during this study and were valid instruments as they remained statistically significant for this study.

3.11 Conclusion

This chapter explained the method that was used to analyse the data as part of a secondary analysis. The chapter further justified the use of both the qualitative and quantitative research design for this study and discussed the limitations and strengths of the research that can be ascribed to the validity and reliability of the data and method of use.

CHAPTER 4: FINDINGS AND ANALYSIS

4.1 Introduction

This chapter presents the findings from the data collected for this study. The data analysis is presented by using tables and figures of answers from the children's scripts to illustrate the frequency and patterns of errors that the children committed when spelling four-letter words during the RCUP test. The first section of the chapter looks at word analysis and descriptions of the errors. This includes the unpacking and grouping of the errors using Gentry's (1982) stage theory and trying to locate them within this framework of spelling development. This type of categorisation will only happen where possible, as the Gentry (1982) stage theory is understood to be best suited for HL English children. Finally, this being a secondary analysis, the categories in this study are similar to the original study undertaken by Fleisch et al. (2017) but different in that they focus on four-letter word analysis. An illustration of an error category from the test will be shown to highlight one of the categories used in the tables and substantive analysis of the categories will be elaborated upon with this illustration to give insight into the patterns and prevalence of the spelling errors.

The discussion below focuses on the analysis of the errors and the patterns that emerge in an attempt to understand the application used by the children in formulating meaning during the test. The Gentry (1982) spelling development framework allows us to locate and understand the children's spelling development through spelling error analysis.

4.2 Word analysis and application

A total of 585 children's scripts were analysed and the focus was on four-letter words from the RCUP study which were identified for further analysis. The aim was to understand why the children generated several patterns of errors during the test. The four-letter words that were chosen for analysis were: /pots/, /camp/, /play/, /shut/, /bird/, /each/ and /hurt/. These words were selected to gain an understanding of and to try and interpret the children's patterns of spelling errors. Following on from the analysis of three-letter

words undertaken by Fleisch et al. (2017), the need to analyse four-letter words was sparked by the types of errors and analysis they had noted in the children's scripts in their attempts to make sense of the content of these scripts.

The analysis and interpretation in this chapter depict the errors that the children made in their scripts using the coding and analysis method described in the methodology chapter. In the sections that follow, I discuss the data and the types of errors that emerged from this study. Different error categories emanated from the error patterns as illustrated by the total number of children who attained either correct spelling or made specific types of errors that are shown in the tables and figures below. Each four-letter word that is analysed using Gentry's (1982) spelling development theory is an attempt to locate the children's development through their error patterns. Table 2 defines the terms used in the analysis of the words in this chapter.

Table 2: Definitions of word analysis terms.

Term	Definition
Consonant	A speech sound that is not a vowel and is represented by letters in the English alphabets except for *a, e, i, o* and *u*
Digraph	A combination of two letters that represent one sound
Vowels	Vowels are represented by the letters *a, e, i, o* and *u*
Blends	These are usually composed of two or three consonants and can begin or end a syllable or word, e.g. *pl*, *sm*, *sl*

4.2.1 Analysis of the word /pots/

The word /pots/ refers to a commonly used household item, a utensil that is used for cooking and boiling water, and in its plural form, the word /pots/ is considered a simple English word used in everyday life. It is assumed that children are familiar with this household object and that they can identify it whenever asked about it. The word /pots/ is thus a common noun which has a simple structure of consonant-vowel-consonant-consonant (CVCC).

The analysis of the data revealed that 6% of children had spelt the word /pots/ correctly. This is calculated at 35 children out of 585. This means that out of an average of 21–40 children in every classroom, an average of 3–4 children could spell the word /pots/ correctly. Table 3 details the percentage of errors grouped into four categories which are important for this study.

Table 3: Percentage analysis of the word /pots/.

Categories	Percentage	Total no. of scripts
Correct word	6%	35
Missing *s* at the end of *pots*	54%	318
Vowel error	24%	139
Words that have no meaning	16%	93
Grand total	**100%**	**585**

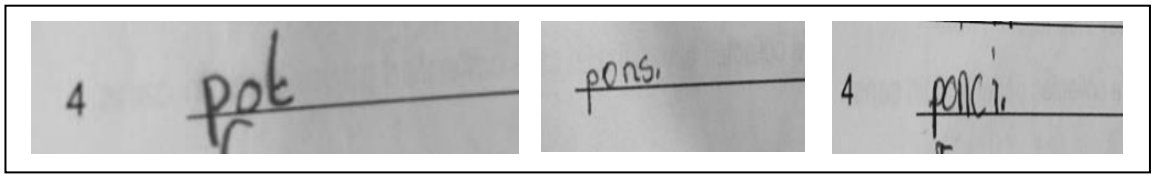

Figure 1: Spelling errors of the word /pots/.

The most significant error that was recorded in this analysis was the exclusion of the letter /s/ at the end of the word /pots/ – the spelling test required the children to spell the word in its plural form but the children had opted to write the word in a singular form. It is important to note that the letter /s/ is not a commonly used letter in the English vocabulary even by HL English speaking children who are learning how to spell words correctly.

Using Gentry's (1982) model, the errors committed with this word indicate that the children are in the precommunicative stage as most of the children demonstrated no knowledge of the letter sounds and the words that were spelt by the children appeared to be random. In some cases, the children used one or two letters in an attempt to partially represent the word /pots/ as seen in Figure 1. These children can be located in the semiphonetic stage. Transitional spellers were also found in the analysed datasets. These are children who committed vowel errors which are common errors made by children

who are starting to learn correct spelling. According to Gentry (1982), it is expected that transitional spellers will have vowels appearing in every syllable. The children in this study also appeared to struggle with the letter /t/ as noted in Figure 1 and they seemed not to be able to hear or write the blend /ts/ as required by the test.

The number of children committing vowel errors (i.e. children who confused the vowels or spelt them incorrectly) with the word /pots/ was higher than expected at 24%. This was because the children made mistakes by confusing the letter /o/ with /e/, /i/ or /a/. The number of children who confused the vowels is not significant when compared to those children who had spelt the word and excluded the letter /s/. However, the percentage might be significant as it indicates possible vowel confusion. Vowel error confusion might have an impact on teaching and learning and this might require that we look at how vowels are taught in both HL and FAL. The errors committed by Spanish children when learning English words and the sound system of English words present unique challenges as noted by Helman (2004). Gentry (1982) noted that some children who are in the transitional stage use visual strategies rooted in memory or gained through incidental learning when attempting to spell words correctly.

4.2.2 Analysis of the word /camp/

Table 4: Percentage analysis of the word /camp/.

Categories	Percentage	Total no. of scripts
Correct word	19%	113
c-k confusion	32%	187
Combination blend + vowel	27%	156
Vowel error confusion	22%	129
Grand total	**100%**	**585**

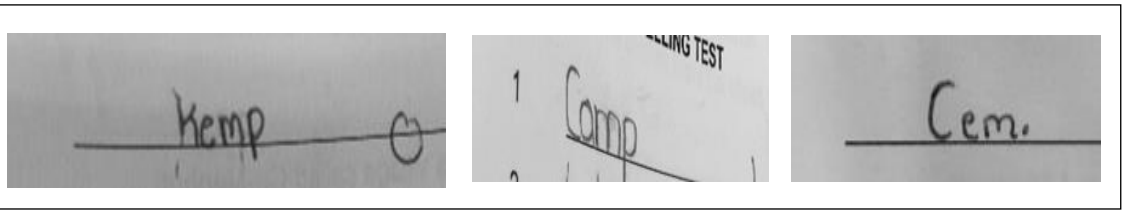

Figure 2: Spelling errors of the word /camp/.

/Camp/ is both a noun and a verb in this context and it can be assumed that the word is not a common word used in the everyday context of these children. The word /camp/ has an unusual blend at the end, /mp/, and this blend is not common in English. The analysis of the scripts also revealed the confusion with the /c/-/k/ sound as the letters might sound the same when the word /camp/ is pronounced. The word can be broken down into /ca/ and /mp/ – approximately 108 English words exist that start with the letters /ca/ and 30 English words exist that end with the letters /mp/.

The /c/-/k/ confusion is a common error for FAL English speakers and here it has to do with the sound of the first letter /c/ which might be mistaken for the letter /k/. Table 4 depicts the categories of error, highlighting the /c/-/k/ confusion, blend and vowel confusion and is accompanied by Figure 2 illustrating some of the children's answers.

The majority of the errors committed by the children in their attempts to spell /camp/ indicate that the children are in the semiphonetic stage. Many of the children attempted to represent the whole word by using letters /c/ and /k/, blends and vowels in an attempt to represent the word /camp/. When the errors were analysed closely (Table 4), a letter-name strategy was evident and it was clear that the children have alphabet knowledge although they cannot distinguish the blends.

A standard English error was made by 32% of the children and this fits well with errors committed by transitional spellers. The children appear to not have been taught the convention of when to use the /c/ and the /k/. The combination of blends and vowels by the children is indicative of a standard error as they seem to be struggling with differentiating standard English vowel sounds. The underdevelopment of a fine distinction of differencing between the /c/ and /k/ is indicative of a common error amongst the children. The third word in the figure, /cem/ indicates that the child is semiphonetic and this spelling error indicates a misunderstanding of the vowel sounds as observed in the test scripts. An error in the vowel sounds seems to suggest that the children are struggling with transitioning between HL and FAL.

4.2.3 Analysis of the word /play/

The word /play/ is commonly used in children's everyday life and it defines an activity that children or individuals can engage in. The word is both a verb and a noun and has a blend /pl/ at the beginning and a long /a/ sound. In the original study, Fleisch et al. (2017) recorded that 68% of the children in their study spelt the word /play/ correctly. An analysis of the same datasets during this study, indicated that several conclusions can be drawn as to why this was the case. One of the supposed reasons is that this is a commonly used word that the children interact with daily through play and in some cases during incidental interactions at home or school. The spelling test has given insight into some form of learning that takes place through interaction especially for commonly used words such as /play/. While the majority of the children spelt the word correctly, blend and vowel errors were prevalent error patterns. Drawing on Gentry's (1982) model, we can locate many of the children who spelt the word /play/ correctly within the correct stage but many of the children in this study were in the semiphonetic and transitional stage, i.e. they place reliance on visual memory and sound of the word.

The errors observed and highlighted below suggest the children's inability to understand blends with errors at 31% being indicative of a language problem and the inability to distinguish letters that are joined together such as /pl/. The letters /pl/ are also unusual blends in isiZulu.

Table 5: Percentage analysis of the word /play/.

Categories	Percentage	Total no. of scripts
Correct word	42%	246
Vowel error	27%	158
Blends	31%	181
Grand total	**100%**	**585**

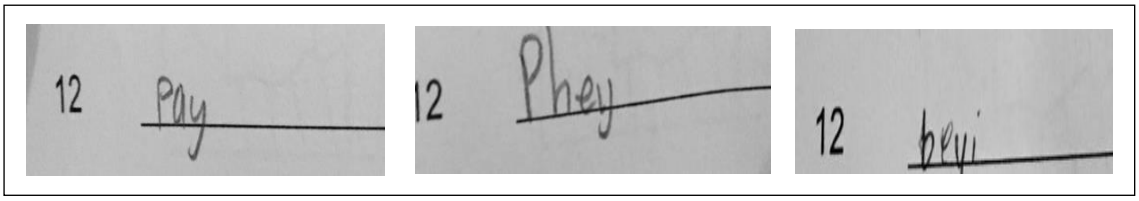

Figure 3: Spelling errors of the word /play/.

From Figure 3 it is evident that the children confused and struggled with the /pl/ blend and in some cases inserted the letter /h/ in an attempt to spell the word /play/. The confusion between /b/ and /p/ was not a common error in the scripts. The child who spelt the word /pay/ as seen in Figure 3, did not provide a comprehensive mapping of the word but had understood an unusual letter sound. This particular error does not fit easily into a Gentry category. /Ph/ is a common blend in isiZulu and the children seem to have struggled to make a distinction between /pl/ and the /ph/. The third error shown in Figure 3, is /beyi/. This does not fit into the Gentry error analysis as observed in many of the scripts where children added the vowel /i/ either at the beginning or at the end of the words that they had to spell. This can be attributed to how many isiZulu words have the vowel /i/ at the beginning of the words and isiZulu being the HL for the children in the study. Attempting to attain correct spelling by transitioning between HL and FAL is a struggle for the children in this study. Children who inserted the letter /i/ at the beginning of the words that they had to spell seem to have used isiZulu conventions to spell the words.

Transitional and semiphonetic spellers, as observed from the errors committed above, tend to be engaged in what Gentry (1982) calls the alternate differentiation of the same sound or visual representation of words (e.g. *play-phey*). Added to this, transitional speller

use words they interact with daily and this highlights the link to incidental learning by relying on memory. Transitional spellers engage in visual spelling as a form of strategy to engage the demands of teaching and learning. The child who spelt the word /phey/ understood the letter in the isiZulu version but struggled with the English written version. In all three examples in Figure 3, there is a problem with the /l/ sound.

4.2.4 Analysis of the word /shut/

Table 6: Percentage analysis of the word /shut/.

Categories	Percentage	Total no. of scripts
Correct word	12%	72
Vowel error	67%	390
Blend + vowel error	21%	123
Grand total	**100%**	**585**

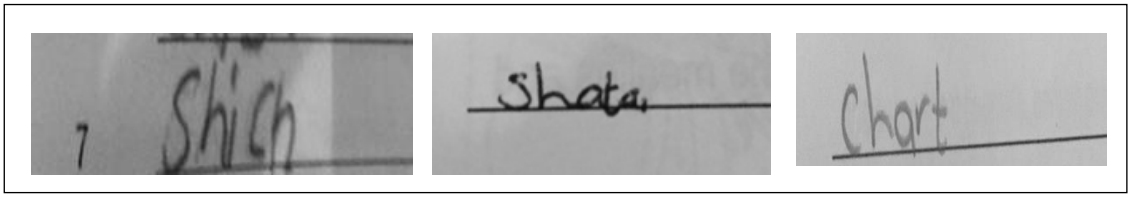

Figure 4: Spelling errors of the word /shut/.

The word /shut/ is a digraph as it combines two letters that represent a particular sound, i.e. /sh/. The word /shut/ is also a verb that can be used to give a command or describe an incident in the English language. The word has a simple consonants and vowel structure.

The word /shut/ presents two interesting errors. While 28 letter words in the English language start with /sh/, it was the vowel errors that the children committed that made for an interesting observation including the confusion between the letter /u/ and /e/ which is listed as vowel error. Many children assumed that the vowel letter /e/ ought to be inserted in the place of /u/. While the /t/ was audible at the end, it is the vowel sound which they seemed to struggle with. According to the spelling errors made for /shut/, the children can be placed in the semiphonetic stage of Gentry's (1982) spelling development with many

children committing vowel errors and blend errors. The children seemed to understand that the word /shut/ has a sound that represents the word. Letter sounds that match the letter names were also evidenced in the children's scripts. In the semiphonetic stage, letter-sounds were crucial for decoding purposes and the error patterns reveal this strategy and phase of development in the children (Figure 4).

It is evident that the children have a unique problem in that they are not accustomed to hearing the English sounds and they do not have a systematic way of decoding the English words. The errors depicted indicate that the children used the written conventions of the isiZulu words thinking that English used the same conventions. While the children could spell the first letters /sh/ of the word /shut/ indicating that where there is an alignment of the HL and the LoLT, the children seemed to be able to decode the words using familiar conventions. The children seemed to be filling in the blanks as they wrote the words indicating that they do not have systematic instruction of oral English language.

4.2.5 Analysis of the word /bird/

Table 7: Percentage analysis of the word /bird/.

Categories	Percentage	Total no. of scripts
Correct word	21%	122
Vowel error confusion	57%	335
Vowel confusion + blend	22%	128
Grand total	**100%**	**585**

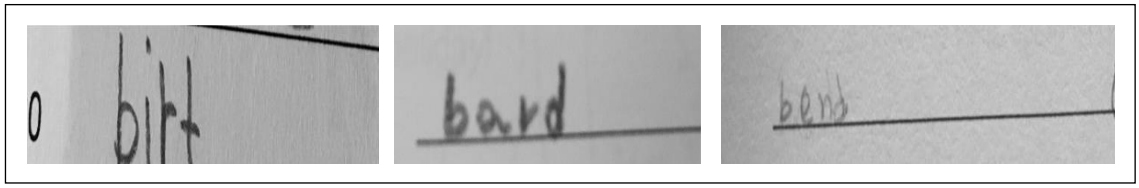

Figure 5: Spelling errors of the word /bird/.

The word /bird/ is a noun that describes an animal which has feathers and can take flight. The word /bird/ is used to describe an aeroplane in some instances as it can also take to

the skies but is not an animal and seen as a machine by some children. Many of the children in the test when spelling the word /bird/, committed what is categorised as vowel error. The children confused the vowel /i/ with the vowels /a/ and/or /e/. This suggests that when the children attempted to decode the word and formulate meaning they confused the three vowel sounds. In some cases, the children had omitted the letter /r/ although this error category result was very low therefore the silent /r/ in /bird/ indicated that the children's decoding ability was weak. Although some children opted to spell /bad/ instead of /bird/, the /ir/ proved to be a very complex combination of letters for the children to decode. The children who opted for /bad/ would have been familiar with the sound of the word but struggled with decoding the correct word, especially when an example was given during the test to spark a visual representation of what is required of them. Gentry's (1982) theory was used to locate this particular pattern of errors and these children occupy the phonetic and semiphonetic stage. In this situation where two stages are present, the children must first be able to understand letter-sound correspondence (semiphonetic) and then when in the phonetic stage develop or write what Gentry (1982) refers to as inventive words which children make-up by relying on either the sound of the letters or incidental learning (see Figure 5).

The errors committed by children in this study confirm what has been widely established, that there is a persistent vowel error between /i/ and /e/ that the children make when trying to interpret the sound into written text.

4.2.6 Analysis of the word /each/

Table 8: Percentage analysis of the word /each/.

Categories	Percentage	Total no. of scripts
Correct word	28%	161
Vowel error confusion	41%	243
Digraph	31%	181
Grand total	**100%**	**585**

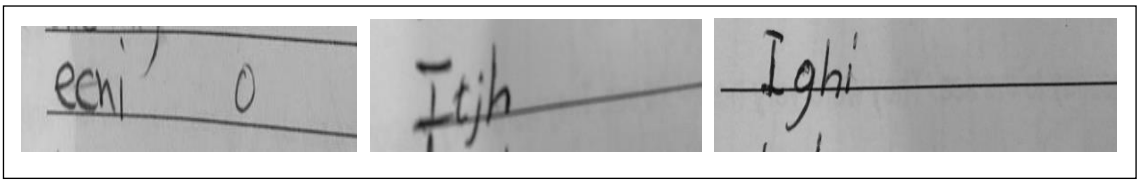

Figure 6: Spelling errors of the word /each/.

According to the Oxford dictionary, /each/ could be described as a pronoun, adjective, determinant or an indefinite. As an adjective /each/ is normally followed by a singular noun in a sentence. The word has a long vowel /e/ and a digraph /ch/ as the last two letters make up a unique sound that is related to a digraph. It is worth noting that the two letters /ch/ make the digraph and not the sound. The letters /ch/ are also a consonant blend as they make a distinct consonant sound. The children seemed to struggle to hear the distinction of the unfamiliar sound as their ears are trained to hear in isiZulu. For children to spell, they need to be able to understand the meaning of the word, by hearing and not by using decoding. This allows them to spell by meaning and not by decoding. Children cannot move beyond decoding to spell for meaning.

The word presented several challenges for the children in this study, as many did not insert the letter /a/ after /e/, and in a classic vowel error process, many children confused the /i/ and /e/ and opted to write the word as they heard it, which was with the long vowel /e/. The children did not struggle with the digraph sound, but they did struggle with writing the correct two digraph letters /ch/. Using the Gentry (1982) stage theory, we can locate the children in this study within the transitional stage as some exhibit tendencies of assimilating the conventional replacements of letters to represent sounds. A closer look at the patterns of errors for this word reveal similarities in more than half of the 585 scripts resulting in many children being located within the semiphonetic stage. These children understand that letters have sounds and the digraph /ch/ makes a specific sound (see Figure 6). The vowel sound and vowel-consonant blend errors show that the children are phonetic but that they struggle with the vowel sound as it is an unusual sound. Two words depicted in Figure 6 have an /i/ at the end which indicates the written version of many isiZulu words. The word /itjh/ in Figure 6 is written by a child who can be located in the semiphonetic stage and is attempting to map the letter sounds into written format. While

some errors could not be explained in detail, the teachers' emphasis on the letter sounds might have contributed to how the children decoded and mapped the letter sounds which they produced in their scripts.

4.2.7 Analysis of the word /hurt/

Table 9: Percentage analysis of the word /hurt/.

Categories	Percentage	Total no. of scripts
Correct word	10.1%	59
Vowel error + digraphs	55%	322
Missing (t)	24%	140
Doubling of (h) and (r) exclusion	10.9%	64
Grand total	**100%**	**585**

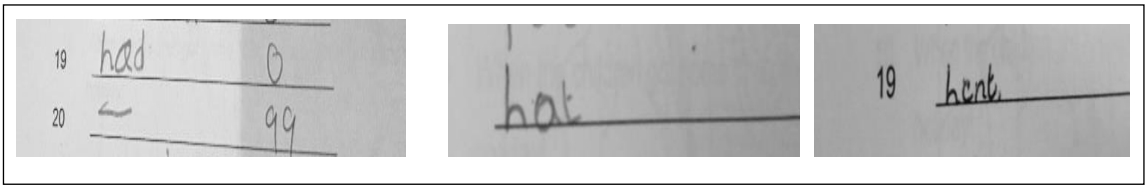

Figure 7: Spelling errors of the word /hurt/.

The word /hurt/ is a verb that is used to describe a painful experience that could either be physical or emotional. The word in the analysed scripts indicates that most children struggled with vowel errors by confusing the letter /e/ and /u/, and in some cases, the children had difficulty in writing the letter /r/. We can assume that the children struggled to make meaning of the word during the spelling test but when the children attempted to spell the word, they wrote the word /hurt/ as they heard it and one child spelt it as /had/ (see Figure 7). The errors depicted in Figure 7 indicate a lack of mapping of all the letters by the children, and the first and the second errors indicate a vowel error and a consonant blend.

Vowel error confusion was a common feature in this study. Using Gentry's (1982) stage theory we understand yet again that the children are located in the semiphonetic stage as they rely on sound and memory (incidental learning). The errors they committed are typical of a child located in the semiphonetic stage. The errors observed when the children attempted to spell the word /hurt/ indicate that the children did not understand the meaning of the word and were using decoding methods associated with their HL and not English letter-sounds. With the particular error /hat/ the child spelt the word as they heard it and could not make sense of the letter-sound relationship.

4.3 Conceptual framework analysis

Given the critique of Gentry's (1982) model by Fleisch et al., (2017), I agree that the model is best suited for analysing spelling errors committed by HL English children, as indicated in the previous chapter. However, the framework is limited in providing sufficient opportunity to unpack and analyse errors committed by children who are FAL English speakers. Trying to locate the children in this study within an established error analysis structure renders the children's errors difficult to understand and interpret. However, using Gentry's theory does provide an opportunity to understand why children in this study are not in the phonetic or transitional stages. Being in the phonetic or transitional stage would allow them to start reading for meaning as they would be able to decode and map the words and spell the words correctly leading to an adequate application when reading or writing.

To make sense of these error patterns, we need to look in more depth at the descriptive sections by detailing and outlining the children's scripts of the four-letter words. Using Gentry's (1982) developmental stage model, we need to look at what emerges from the errors by focusing on two patterns of difficulty – firstly, blends and digraphs across all the words and, secondly, the vowel sounds associated with the words.

With this level of difficulty, we should be able to observe the emergence of common error patterns from the children's scripts. Table 10 depicts categories of errors citing the most prevalent error types that are important for this study.

While many more errors can be noted, these are considered to be vital for understanding the children's error patterns and trying to explain their developmental needs. This makes Gentry's stage theory a sufficient base to build from especially for FAL English speakers. The theory may however be insufficient to fully outline spelling development for FAL children who need to be exposed to decoding and letter-sound mapping different from HL English speakers.

Table 10: Emerging error categories.

Error type	Pots	Camp	Play	Shut	Hurt	Each	Bird
Vowel sound	a-o	a-e	a-e	u-a, e, i	u-a, e	a-e, i	a-i
c-k confusion		c-k					
Digraphs + Vowel confusion	pots-pot	camp-kemp	play-pley	shut-shat	hurt-hat		bird-bad
Blends	po-ts		pl-ay	sh-ut			

CHAPTER 5: CONCLUSION

5.1 Introduction

This chapter looks at Gentry's developmental stage theory and incidental learning theory regarding the findings of this study as per the children's spelling error patterns. The chapter will attempt to triangulate what emerges from the analysis in Chapter 4 and use the literature to understand what is happening with the children in this study. Emerging out of the analysis is that the prevalence of spelling errors from the children's scripts are indicative of ineffective teaching when it comes to teaching children how to spell for meaning.

The evidence emerging from the previous chapter is that the children in the study are struggling with transitioning from HL to FAL in mapping and understanding the English letter sounds. The struggle posed by some blends and digraphs, coupled with vowel sounds, indicates definite patterns of spelling errors that were made in the children's test scripts. A discussion of emerging trends and a proposal of how we should understand the children's spelling ability and development will be outlined.

The cross-case analysis aims to quantify the prevalent errors that were found in this study and group the errors by highlighting the patterns of errors. The schema borne out of the error patterns by the children in this study presents two distinct features, the first being that the children's transition from HL to FAL is a challenge coupled with an insufficient sound structure and a language barrier. Secondly, while Gentry's (1982) theory presents a developmental model of tracking the attainment of correct spelling in children, the children in this study are not confronted with a developmental challenge. Rather they have not been exposed and taught in a manner that permits their spelling development to be nurtured and taught. Some children in this study exhibit features of incidental learning with a small but significant number of children being able to decode some complex word structure even thou they struggle with alphabetic structure and vowel sounds.

5.2 Discussion

5.2.1 Teaching letter mapping and sounds

The persistent errors observed in the previous chapter point to the need for a specific teaching method for FAL English speakers. The errors indicate the need for teachers who teach FAL English to consider how to adapt the teaching of reading in English. The unfamiliarity of English words, as observed by the errors committed by the children, point to the absence of daily interaction with the English words. Brink et al. (2020) found that where children are proficient in FAL English and possess sufficient or equal content knowledge, they tend to outperform HL English children. This strengthens my suggestion that children have to be taught with an intent that is aimed at improving and developing their reading development which will then improve their spelling development and techniques. Incidental learning continues to play a crucial role in children who are FAL English speakers. Brink et al. (2020, p. 35) remind us that "children who are reading in a second language, whose working memory might be employed to capacity with the task of decoding and word recognition, this task might very well constitute an overload." The need to train teachers to teach differently can lessen the burden on the children which will reduce anxiety and allow the children to learn by using memory (incidental) techniques to acquire the new language. Building on their HL decoding techniques, their ability to learn English will be greatly assisted by the teachers' abilities to teach using the children's existing abilities, which are their HL and incidental leaning rooted in memory.

The majority of the children in the RCUP study (Fleisch et al., 2015) were able to identify complex words such as /play/ and /church/ which are unfamiliar in isiZulu and this can be attributed to the children's ability to recognise words. Invernizzi and Hayes (2010, as cited in Probert and de Vos, 2016) note that "rapid and effortless word recognition is a major component of fluent reading." The ability to recognise words is important as it positions the child to learn while using what they already know. It is crucial for the child's development to have teachers who use incidental learning or the child's daily interaction with the environment to help them learn a new language. Systematic teaching of phonological sound is important as it allows the child to *know* the English words with

their ears as they will be equipped to understand the English letter sounds. Children mapping words in English by relying on isiZulu word mapping resulted in the children not writing complete vowel letters.

The children and the teachers seem to be unfamiliar with the English blends and vowel sounds. After the first RCUP analysis, it was not yet known that the children were, not only unfamiliar with the vowel sounds but also with unfamiliar blends. If the sound was familiar, like /sh/, the children were able to map the letter sound but if the word was unfamiliar, like /bird/, the children struggled with mapping and decoding the word.

The big missing piece that the children lack in this process is being aware that the blend sounds are missing. In an unfamiliar word, such as /play/, the children struggled to decode the blend /pl/ as they were not familiar with it nor have they been taught it. In this case, the children made the words up as they went along as observed in the error where the child spelt /phey/ instead of /play/. They did not have a mental reference for the structure of the words.

5.2.2 Phonemes and teaching difficulties

In his study focusing on errors made by HL English speaking children, Gentry (1982) provided insight into what was happening to the children through their spelling error patterns. In his early studies, Gentry (1978) noted that in the initial stages of learning to read, the spelling strategies that children use are different from what they use later on. They proceed from simple to more complex, from concrete to more abstract (Gentry, 1978, p. 4). Teachers can encourage this progression through the use of different strategies in the classroom. One of the strategies that will be discussed is incidental learning as it relates to teaching and learning.

The teaching strategies employed by teachers in their quest to facilitate learning should be monitored closely as the children employ the strategies observed in these lessons in attempting to spell words correctly. We have observed these strategies in this study.

Emerging errors from the analysis of the children's scripts in this study indicate that there are children who understand alphabetic principles, i.e. the ability to use letters and symbols to represent speech or sound. About 12% of the children are considered to be alphabetic and this spelling ability is mostly found in children who are in Grade R. Thus the data in this study suggests that the children are struggling to spell correctly but they exhibit enormous ability to use different techniques in their attempts to spell the words. The children in this grade do not constitute a large proportion of the sample but I can confirm that these are children who need special education to support their development. The lack of appropriate teaching of the vowel system and the inability to read fluently is problematic and Eason et al., (2005, as cited in Brink et al., 2020) argue that "at the core of being able to comprehend text lies the ability to make inferences, to plan, and to organise information."

The inability of children to read for meaning is closely linked to their inability to spell and this is one of the challenges facing the early grades in this study. In the study by Brink et al., (2020, p. 53), they contend that "language is, firstly, sound. Without knowledge of the sounds of a language – its phonemes, its rhythm, prosody, syllabic structure, syntactic and morphological structure – learning to read is almost impossible." The children in this study struggled with understanding letter sounds in English and this led to the types of errors they committed, but it is important to note that the pronunciation of the words and the letters by the teachers impacts the children's ability to decode the word. Tunmer and Hoover (2019, as cited in Brink et al., 2020) define phonemes as contrastive sounds of a language and they are the smallest unit of sound that distinguishes one word from another word in a language. To illustrate this point, the children in this study struggled with differentiating between /bird/ and /bad/ and this lack of phonemic awareness in the children can be attributed to how teachers teach phonemes.

The importance of phonemic awareness cannot be overstated and this ability to differentiate between sounds ensures that children have adequate reading and spelling capability as they develop in their schooling life. The teachers' instructions to the children during a spelling test or how the word is pronounced and heard is important to the children. Brink et al., (2020) noted that "all of the activities in the classroom are phonics

instructions" therefore teachers need to master the sound of the words they use in the classroom.

In teaching an additional language, Brink et al., (2020) argue that teachers should know the standard sound of the language they are teaching (in this case English) so that they can teach the sound of the words as an insight into their children learning to read. To extend on this opinion, I believe that teaching the sound of the letters in a word and teaching how to spell the word correctly allows the children to read much better as they would possess sufficient phonemic awareness to decode the word. In the Early Grade Reading Study (EGRS II) Brink et al., (2020) made a startling discovery on how teachers teach new letter sounds. They found that none of the teachers they had observed in the six schools that were part of the study knew the sounds of the words that they were teaching. This observation endorses the findings of the RCUP study and it is clear that the teachers, in their quest to spell the words to the children during the test, would pronounce the phonemes that were represented by a single grapheme (Brink et al., 2020). This approach to teaching leads to children not being able to decode the word correctly. As observed by Van Jaarsveld (1975, as cited in Brink et al., 2020) audio-psycho-phonology (APP) is important for teachers who are not HL English speakers and how they teach the language, in this case to children whom themselves are not HL English speakers. In their concluding statements, Brink et al. (2020) point to the significance of sound but caution that if the children only encounter the sound and syntax of the words, this all becomes a meaningless exercise for children in the Foundation Phase especially when they need to be able to read for meaning to progress to other grades.

5.2.3 Is Gentry's theory sufficient?

To answer this question, we need to understand what Gentry (1982) intended to achieve with his study that is focused on the spelling errors of children who were HL English speakers. To unpack this approach, I focus on the categorisations of his study through the lens of what developmental theorist want to achieve, which is to track and understand children's development. The Gentry (1982) framework is insufficient in this regard as it does not deal with children's inability to decode and map letter sounds and their blends. The children suited to the Gentry framework are HL English speakers who encounter the words daily and can map and decode the letters without having to resort to the strenuous means observed in the HL isiZulu speakers in the 2014 RCUP spelling tests.

Gentry's (1978) model was borne out of the developmental theory prevalent in education in the 20th century and refocuses the idea that children are active participants in education and that their error patterns provide us with insights into monitoring and understanding their spelling development. The model was developed by analysing the spelling errors of children who are HL English speakers and building on the stage theory is an important step towards understanding its suitability for analysing patterns of errors made by FAL English speakers. The use of Gentry's model as a framework for analysis is purely based on attempting to locate children's spelling errors within the stages proposed by Gentry (1982) to track children's development.

It must be noted that the children in this study are in Grade 4 where they are expected to make the big transition to learning in English. Sufficient errors have been documented in this study to position the children in Gentry's transitional stage, a stage with depicts the children as having mastered the art of representing words by moving away from a reliance on phonology and using visual representation.

The error categories provided by Gentry (1982) do not provide an adequate understanding of why the children in this study are struggling to spell words correctly. Careful analysis indicates that where there are letter sounds that the children are not familiar with or that do not exist in their language, common patterns of errors can be noted amongst the

children's scripts. This indicates that the children are not necessarily struggling with inadequate spelling development but that they are struggling to transfer their knowledge from having learnt it in their HL to English. Brink et al., (2020) would argue that this is because children are only able to recognise written symbols and they are spelling the words as they hear them and not as they understand them. They are also using visual representations and spelling partial words. With 79% of the children in this study in the transitional stage and 12% of the children in the phonetic stage, the analysis of the scripts points to the children being exposed to insufficient teaching. Simply put, the children have not been taught how the English language system works to decode words.

The way English is taught and the failure to understand the transition from *learning to read* to *reading to learn* has resulted in these children lacking sufficient foundational skills that they should have obtained in the Foundation Phase at school. In the Early Grade Reading Study (EGRS II), Brink et al., (2020) make an important observation about teachers who teach English. They argue that teachers observed in the study had a fixed pronunciation of English and this was as a result of their phonological memory of the sounds in their language. The children in these teachers' classes suffer the consequences of this pronunciation and are not developmentally challenged. Very few children (9%) require extensive assistance as a result of developmental challenges and these children can be in the semiphonetic stage.

However, the error patterns of the larger group of children who are located within the phonetic and transitional stage are the focus of this study. This is not to discount the outliers but to understand why such a large number of children struggle with attaining correct spelling.

The greater proportion of children in this study are struggling to map letter sounds and rely on the use of memory and isiZulu letter mapping in attempting correct English spelling. According to Gentry (1978), at the semiphonetic stage, the children start to show understanding that letters have sound when pronounced, therefore they place reliance on sound to represent words, which becomes the strategy that they employ. The error patterns

also show that a large number of children wrote partial letters and did not complete the words which is one of the distinct features of the semiphonetic stage.

Table 10 in the previous chapter, depicts spelling errors of the four-letter words in the study and with the emerging patterns of spelling errors, it is not difficult to notice that the children are at the transitional stage. The children are spelling the words as they hear them, are using visual representation, spelling partial words and they seem to be relying on the mapping techniques they have learnt in their HL which is isiZulu.

The error analysis for this study is for Grade 4 children and the results highlight what we already know from the PIRLS report (Howie et al., 2016) which notes that children were unable to read for meaning. I argue that the inability of children to spell words correctly renders them unable to learn to read for meaning. The inability of the children in this study to identify correct vowel sounds and map letter-sounds and their tendency to spell partial words or, in some cases, write the words in isiZulu rather than in English point to insufficient development of spelling and writing ability. I view the development of spelling ability as a need for children to learn to read for meaning. The cross-case analysis below outlines the patterns and prevalence of the children's spelling errors using this framework by Gentry (1982).

5.2.4 Incidental spellers

While challenges related to language can be observed from the analysed scripts, these errors are coupled with a significant number of words that are challenging for the children. Some form of incidental learning seems to have taken place. For example, 42% of the children spelt the word /play/ correctly and this can be attributed to daily interaction with the word at home or school. Hulstijn (2002) explained incidental learning as the learning of one thing (grammar) when the children's primary objective was to do something else. The children's daily interaction of playing has led them learning the grammar while wanting to do something else.

Most children in this study opted to rely on the use of incidental spelling techniques. This was evidenced with some of the errors displaying an understanding of how the alphabetic system works, but exhibiting a lack of understanding of the vowel system. There is a combined percentage of 20% for vowel errors of the four-letter words and a picture of an incidental technique starts to emerge. The vowel errors and the children's alphabetic errors are an indication that the children show no understanding of the letter sounds but rely on alphabets which have no meaning as a result of daily interaction. While the children can be located within the transitional stage, they also display distinct features of the semiphonetic stage with some children writing partial letters and not completing the words. We can also see evidence of the distinction that Hulstijn (2002) made between incidental and intentional learning with the latter being concerned with awareness and the former which is incidentally linked with not paying attention. The partial and incomplete words show some level of awareness from the children in attempting to decode the words, but because they lack the necessary foundation skills required as a result of their teaching and assimilation, they leave the words incomplete. The lack of adequate teaching has resulted in the children not being able to commit to intentional learning as this requires them to commit to new information being processed to memory by paying attention. Instead, the children seem to be geared towards relying on memory and sound as a result of daily interaction rather than classroom techniques, which might not be sufficient.

5.2.5 Cross-case analysis

The cross-case analysis in this study is assembled from the tests scripts that the children were required to complete for the RCUP study. For purposes of this study, a cross-case analysis refers to analysing the findings that relate to the patterns and prevalence of spelling errors committed by the children in this study by using the Gentry (1982) framework. Two patterns of difficulty emerge in this study.

The first difficulty is that the children struggle with blends, digraphs and vowel errors across all the four-letter words. While the children show an understanding of letter sounds, they struggle with blends that have two-letter consonant construction such as /pl/ and /ts/. Through their visual representation of letters, it is obvious that the level of

understanding between letter sounds and the actual words is disjointed and the errors suggest this through the spelling of words such as /itch/ instead of /each/. The children need to be taught to have an understanding that letters work together to create the sound.

The second difficulty to emerge out of this study is the children's understanding of vowel sounds which leads to vowel confusion. In each case where a word is misspelt, the unique sound associated with the word and the placement of vowels is confused with how the word might probably have been pronounced. The children's spelling development, particularly their errors, reveals that they are reliant on sound and a large number of the children can be located in the transitional stage. This reliance is coupled with an underdeveloped word segmentation observed in the children's errors.

Table 11 outlines the prevalent error patterns that are noted in this study. These errors highlight the situation regarding the children in this study. The percentages quantify the number of children per error category and this is where I think we should focus attention because the error descriptions give us insight into possible measures that can be put in place to support the children to move up in the Gentry's stage framework even though they might not be HL English speakers. The development of the children in this framework means that they can master spelling and will subsequently be able to spell correctly and read for meaning.

The cross-case analysis does not only seek to describe the problem. A closer look at the emerging error categories in Table 11 points to the existence of an oral language differentiation amongst the children and the teachers. Mapping the errors against Gentry's (1982) stages I can conclude that this is not about their familiarity with the morphological structure of the English language but rather an early concern that the children can't understand the structural English sounds which seems to be missing and resulting in them not being able to map the letter-sounds from the teachers into words that can be written on paper.

5.5.6 Dual Language Teaching

While the south African education system cannot be classified as a bilingual system with the language of teaching and learning (LoLT) being English, this has been stated in the literature that the policy for the first three years of schooling requires that children be taught in their mother-tongue. The policy changes when they get to grade 4 as observed in this study, that by grade 4 the children must learn or receive instruction for teaching and learning in English. Cummins (2005) contends that "conceptual knowledge in L1 and L2 is interdependent" (pg. 2). This interdependency is acknowledged by our policy position while some might argue that the policy needs to be extended to include other grades, the current policy acknowledges the need to build on the children's L1 for them to be able to assimilate L2 in grade 4.

Table 11: Error description and percentages of errors.

Word	Error description	Percentage
/pots/	1. Mostly missing (s)	54 %
	2. Vowel error is common	24%
/camp/	1. c-k confusion	32%
	2. Combination blend + vowel	27%
	3. Vowel error only	22%
/play/	1. Vowel error	27%
	2. Blend inserted /h/ instead of /l/ + /pl/	31%
/shut/	3. Vowel confusion	67%
	4. Vowel confusion + blend	21%
/bird/	1. Vowel confusion	57%
	2. Vowel confusion + blend	22%
/each/	1. Vowel error	41%
	2. Digraph	31%
/hurt/	1. Vowel error + digraph	55%
	2. Missing /t/	24%

5.3 Conclusion

The error analysis of four-letter words for this study was undertaken for children in Grade 4 and the results highlight what we already know from the PIRLS report (Howie et al., 2016) – children in the study are unable to read for meaning. The inability of the children in this study to correctly identify vowel sounds and to complete the words, in addition to partially spelling some words or in some cases translating them from English into isiZulu, points to insufficient development of their spelling ability. I argue that the inability of children to spell words correctly renders them unable to learn to read for meaning. Furthermore, I view the development of spelling ability as necessary for children to learn to read for meaning.

In the Fleisch et al., (2017) study it is noted that children have difficulty with one-letter vowel sounds. In this study, more complex words are analysed and it is noted that when

children are exposed to complex vowel sounds, they struggle to make meaning of the sound and to translate it into the written version. Having only the phonic knowledge in isiZulu is not helpful to the children because it remains important to decode sound in English. Children need to be systematically taught how to decode complex words and this will enable them to improve their letter mapping when confronted with more complex vowel sounds, blends and digraphs. If they do not hear the English word, then they will not be able to blend words or decode/encode words. They will then shut-down while attempting to use the bottom-up strategy to make sense of the words. This will result in children struggling to develop fluency and not being able to do comprehension.

South African children in quantile 1, 2 and 3 schools struggle with reading for meaning and we need to know why. Until now, we have only had what I refer to as the big, aggregate picture of the crisis. In drilling down to where the problems are and using the RCUP study, we are now able to provide a nuanced picture of the source of the problems. There are presumably many reasons for the problems, but decoding is an important starting point. One of the key parts of reading is a child's ability to use decoding. The use of the decoding technique by the children in the RCUP spelling test section (Howie et al., 2016) is intended to breakdown and build-up the English words they are required to spell by relying on their HL (isiZulu) techniques. The analysis of the RCUP study scripts also points to the inability of the children to use decoding in English as a result of being unable to hear the letter sounds of the words in English. Instead, they use their knowledge from HL isiZulu and as a result, they miss a lot of information from the English words. Brink et al. (2020) point to the teachers struggling to teach English because they cannot teach decoding to the children. This analysis points to the reading challenge facing HL African language speakers who have little or no exposure to English.

It has been established that the children do know the oral English language sounds, but looking at the patterns of errors, most of the errors cannot be located within the Gentry (1982) framework of error analysis. These children have a different problem, one that has to do with the unique challenges that FAL English speakers have with an oral familiarity of English letter sounds.

Language and teaching difficulties caused by the teachers' inability to teach English spelling present problems that can be overcome. Gentry's (1982) model is insufficient for this but it is important as a baseline to be used for comparative purposes and for further developmental studies of children who are not HL English speakers. The presence of incidental spellers in this study is important and has been discussed above. These are children who have learnt to adapt their spelling through their interactions. They should be encouraged and supported to improve their method of spelling. The cross-case analysis examined above paints a picture of what is lacking in teaching and what should be focused on to assist teachers in understanding where their focus should be when teaching English spelling. Most importantly, the quest to teach children to read for meaning extends to the children also being able to read with meaning in their HL to help them master reading in English.

This study was not exhaustive despite the large data sample. One cannot make grand recommendations without acknowledging that South Africa has eleven languages with different dialects. What is clear is that "children's second language (L2) proficiency is, to some extent, a function of their first language (L1) competence" (Cummins, 1979, 2000, as cited in Kim and Piper, 2019). This view confirms what was observed in this study – many children's spelling errors highlighted the use of commonly-used vowels in isiZulu, such as /i/ at the beginning of words they struggled with. The children's reliance on their HL indicates the firm grasp they have of their HL and the errors committed by them highlight the absence of sufficient English teaching for them to be able to hear and spell English words correctly.

The need to build on children's incidental spelling techniques which are rooted in memory is an important step to help them transition from *learning to read* to *reading to learn*. Spelling remains an important technique for fluent reading and identification of words. Where the children attain correct spelling, these words are indicative of their ability to decode words and understand letter-sounds. Where children attain incorrect spelling, the words indicate the children's inability to decode and that they are unable to hear the letter-sound relationship, which emphasises their unfamiliarity with the English sound system.

APPENDIX A: COMMON ENGLISH FAL SPELLING ERRORS

	Word	Sentence	Error
1	bed	I sleep in my *bed*.	d-b confusion, a-e confusion
2	behave	Children must *behave* well at school.	i-e confusion, silent-e
3	bird	The *bird* flew to its nest.	r, i-e-a confusion
4	camp	We use a tent when we *camp*.	k-c confusion, mp blend
5	church	I go to *church* on Sundays.	th-ch confusion
6	crime	Stealing is a *crime*.	silent e
7	cute	The baby is *cute*.	c-k confusion, silent e
8	each	*Each* child has two sweets.	ea and ch
9	froze	The water *froze* into ice.	z-s confusion, silent e
10	fun	We have *fun* at school.	u-a confusion
11	hurt	I fell and *hurt* my knee.	r, u-a confusion
12	light	Switch the *light* on.	gh blend confusion
13	party	We enjoyed the birthday *party*.	r, y-ee-i confusion
14	play	I like to *play* soccer.	pl blend confusion
15	pots	I cook my food in *pots*.	singular not plural
16	rid	Get *rid* of your rubbish.	i-e confusion
17	shut	Keep the door *shut*.	sh, u-e confusion
18	snail	A *snail* has a shell.	sn, ai-ay confusion
19	thirty	There are *thirty* children in our class.	th
20	try	I *try* hard at school.	tr, ai-ay confusion

Source: Fleisch et al., 2017

APPENDIX B: ETHIC APPROVAL LETTER

Faculty of Humanities – Education Campus

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Mr Tshepo Motsepe
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Student No: 0602788H
24 July 2015

Dear Mr Motsepe

Master of Education by Coursework and Research Report: Approval of Proposal

We have pleasure in advising that your proposal entitled "**Spelling errors made by English second language learners in early grades: Secondary analysis of the Reading Catch-Up Programme (RCUP)**", and you have now been admitted to full candidature.

Please note that copies of your readers report have been forwarded to your supervisor(s)

I confirm that Prof Brahm Fleisch has been appointed as your supervisor.

You are required to submit 2 bound and 1 unbound copies/CD in PDF of your research report to the Faculty Office for examination and the deadline is 15 February 2016. The bound copies go to the examiners and are retained by them.

Your attention is drawn to the Senate's requirement that all higher degree candidates submit brief written reports no their progress to the Faculty Office once a year.

Please note that higher degree candidates are required to renew their registration in January each year. Keep us informed of any address changes during the course of the year.

Yours Sincerely

Maropeng Maake

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