



HAWASSA UNIVERSITY
COLLEGE OF SOCIAL SCIENCE AND HUMANITIES
DEPARTMENT OF ENGLISH LANGUAGE AND LITERATURE

**EFFECTS OF EXPLICIT RIME- BASED PHONICS METHOD ON PRIMARY
SCHOOL EFL STUDENTS' PHONOLOGICAL AWARENESS AND WORD
RECOGNITION ABILITY**

BY

ABIY ZEWDU AGEGBEHU

**A Dissertation Submitted to Department of Foreign Languages and Literature in
Hawassa University**

**In Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy (PhD)
in English Language Teaching (ELT)**

**March, 2023
Hawassa University, Ethiopia**

**EFFECTS OF EXPLICIT RIME- BASED PHONICS METHOD ON EFL STUDENTS’
PHONOLOGICAL AWARENESS AND WORD RECOGNITION ABILITY: THE CASE
OF PUBLIC PRIMARY SCHOOL STUDENTS IN HAWASSA**

BY

ABIY ZEWDU AGEAGNEHU

**A Dissertation Submitted to Department of Foreign Languages and Literature in
Hawassa University**

**In Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy (PhD) in
English Language Teaching (ELT)**

**March, 2023
Hawassa University, Ethiopia**

HAWASSA UNIVERSITY
COLLEGE OF SOCIAL SCIENCE AND HUMANITIES
DEPARTMENT OF ENGLISH LANGUAGE AND LITERATURE

**EFFECTS OF EXPLICIT RIME- BASED PHONICS METHOD ON EFL STUDENTS’
PHONOLOGICAL AWARENESS AND WORD RECOGNITION ABILITY: THE CASE
OF PUBLIC PRIMARY SCHOOL STUDENTS IN HAWASSA**

BY

ABIY ZEWDU AGEGNEHU

Approved by board of examiners

_____	_____	_____
Advisor	Signature	Date
_____	_____	_____
External Examiner	Signature	Date
_____	_____	_____
Internal Examiner	Signature	Date
_____	_____	_____
SGS Approval	Signature	Date

ACKNOWLEDGEMENTS

My heartfelt and respectful gratitude goes to my advisors, Dr. Mebratu Mulatu and Dr. Zeleke Arficho, who walked with me from the beginning to the end of this journey, holding my hand, and being always there for me. I owe them a debt of gratitude to their invaluable contribution to this work through their constructive and critical comments.

I sincerely thank Dr. Mesfin Abera, who continuously offered constructive comments during the series of PhD seminars. I am grateful to Nigist Furra, Tabor, Haqi and Ethiopia Tikdem Primary Schools students and teachers who took part in the study. I have a deep appreciation for my colleagues and friends, Endeshaw Berja, Teshale Alemu, Tesfaye Adugna, Gizachew Kinde and Teshome Bekele for their professional support in editing the testing materials, testing students and facilitating the data gathering process. I should also like to thank my brother Menber Zewdu for his financial and moral support throughout my study. I thank my wife, W/ro Betelehem Batisso and my children, Elyana and Henon, for their continued love and support as well as for their faith in me. I should also extend my gratitude to Addisu Bogale, Ephrem Zeleke, Kefyalew Woreta, Woldemariam Bezabih and Nigatu Assefa for all their unreserved support and understanding from the beginning to the end of this journey.

Contents

DEDICATION.....	xi
ACRONYMS AND ABBREVIATIONS.....	xii
LIST OF TABLES	xiii
LIST OF FIGURES	xiv
ABSTRACT.....	xv
CHAPTER ONE	1
INTRODUCTION.....	1
1.1 Background of the Study	1
1.2 Statement of the Problem.....	9
1.3 Objectives of the Study	16
1.4 Hypotheses	17
1.5 Conceptual Framework.....	19
1.6 Theoretical Framework.....	22
1.7 Significance of the Study	24
1.8 Scope of the Study	25
1.9 Limitations of the Study.....	26
1.10 Operational Definition of Terms.....	26
CHAPTER TWO	28
AN OVERVIEW OF THE RESEARCH SETTING	28
2.1 Introduction.....	28
2.2 A Historical Overview of the Teaching of Basic Reading Skills in Ethiopia.....	28
2.3 The Current Language Policy and the Need for EFL Reading Proficiency in Ethiopia.....	29
2.4 The Status of Primary School Students' EFL Reading Achievement in Ethiopia.....	31
2.5 Early Grade Reading Improvement Initiatives in Ethiopia.....	32
2.5.1 Minimum Learning Competencies for EFL Reading in Grades 1-4.....	33
2.5.2 The Newly Revised Ethiopian National English Language Syllabuses	33
2.5.3 An overview of Word Study and Vocabulary Lessons in Grade 3 English Textbooks (Book 1 & 2)	34
CHAPTER THREE	35
REVIEW OF RELATED LITERATURE	35
3.1 Introduction.....	35
3.2 What is Early Reading?	35
3.3 The Importance of Early Reading Instruction	36

3.4 Basic/Early Grade Reading knowledge and Skills	37
3.4.1 Print Concept	37
3.4.2 Phonological Awareness	37
3.4.3 Graphophonemic Awareness	38
3.4.3.1 Graphophonemic Awareness Continuum	38
3.4.3.1.1 Letter Identification.....	38
3.4.3.1.2 Letter (Grapheme)-Sound Correspondence	39
3.4.3.1.3 Decoding	39
3.4.3.1.4 Encoding (Spelling/Writing).....	40
3. 5 Theories of Reading and Phonological Awareness	40
3.5.1 The Orthographic Depth Hypothesis	41
3.5.2 Psycholinguistic Grain Size Theory.....	42
3.5.3 The Phonological Linkage Hypothesis	43
3.5.4 Dual-route Model of Word Recognition.....	44
3.5.5 Modified dual-route Model of Word Recognition.....	45
3.5.6 Connectionist Model of Word Recognition	46
3.5.7 Developmental Models of Word Recognition	46
3.6 Factors that Predict Early Reading Knowledge and Skills	48
3.6.1 Letter Knowledge.....	48
3.6.2 Orthographic Processing.....	49
3.6.3 Rapid Automatized Naming (RAN)	49
3.6.4 Oral Vocabulary Skills.....	50
3.7 Models of Reading Instruction.....	51
3.7.1 The Whole Word Approach.....	51
3.7.2 The Phonics Approach.....	52
3.7.2.1 Types of Phonics Instructional Methods.....	53
3.7.2.1.1 Synthetic Phonics.....	53
3.7.2.1.2 Analytic Phonics	53
3.7.2.1.3 Rime-based Phonics.....	53
3.8 Onset-rime Units, Rhymes, and Orthographic Analogies	54
3.9 International Research Works on Rime- based Phonics Instruction.....	55

CHAPTER FOUR.....	58
RESEARCH DESIGN AND METHODOLOGY	58
4.1 Introduction.....	58
4.2 Research Paradigm.....	58
4.3 Research Approach	58
4.4 Description of the Study Area.....	59
4.5 Sample Population	59
4.6 Sampling Techniques and Procedures	60
4.7 Research Design.....	61
4.7.1 Research Method	61
4.7.1.1 The Experiment.....	61
4.7.1.1.1 Preparation of Experimental Materials	62
4.7.1.1.1.1 Preparation of Students' Teaching Materials	62
4.7.1.1.1.2 Preparations of Teacher's Guide for the Instructional Material.....	65
4.7.1.1.1.3 Preparation of Teachers' Training Manual	65
4.7.1.1.1.4 Preparation of Students' Activity Booklet	66
4.7.1.1.2 Experimental Procedures	66
4.7.1.1.2.1 Training Teachers	66
4.7.1.1.2.2 Teaching Students	68
4.7.2 Data Gathering Tools/Measurements	73
4.7.2.1 Pre-test	73
4.7.2.2 Post- test.....	73
4.7.2.3 Preparation of Tests and Testing Materials.....	73
4.7.2.3.1 A Test on Phonological Awareness-PA.....	73
4.7.2.3.2 A Test on Word Recognition	75
4.7.2.4 Testers' Booklet	76
4.7.2.5 Students' Stimuli Sheet.....	76
4.7.2.6 Data Gathering Procedures	77
4.7.2.6.1 Conducting Testers' Training	77
4.7.2.6.2 Administering and Scoring Tests.....	78
4.7.3 Reliability and Validity.....	79
4.7.3.1 Reliability.....	80
4.7.3.1.1 Test Re-test Reliability.....	80

4.7.3.1.2 Inter raters' Reliability	80
4.7.3.1.3 Reliability to the Intervention Activity	81
4.7.3.2 Validity	82
4.7.3.2.1 Test Validity.....	82
4.7.3.2.2 Validity to Teaching and Training Materials	82
4.7.3.2.3 Experimental Validity	83
4.7.3.2.3.1 Control over Threat to External Validity	83
4.7.3.2.3.2 Control over Threats to Internal Validity	84
4.8 Ethical Issues	85
4.9 Methods of Data Analysis.....	85
4.10 The Pilot Study	87
4.10.1 Setting and Participants.....	87
4.10.2 Sampling Technique and Procedures.....	87
4.10.3 Research Methods	88
4.10.3.1 The Experiment.....	88
4.10.3.1.1 Lessons Taught	88
4.10.3.1.2 Classroom Teaching Methodology	89
4.10.3.2 Data Gathering Tools /Measurements.....	89
4.10.3.2.1 Pre-test	89
4.10.3.2.2 Post-test.....	90
4.11 The Main Study.....	90
4.11.1 Setting and Participants.....	90
4.11.2 Research Methods	91
4.11.2.1 The Experiment.....	91
4.11.2.1.1 Lessons Taught	91
4.11.2.1.2 Classroom Teaching Methodology	91
4.11.2.1.3 Data Gathering Tools/Measurement	92
4.11.2.1.3.1 Pre-test	92
4.11.2.1.3.2 Post-test.....	92
CHAPTER FIVE	93
RESULTS, ANALYSIS AND DISCUSSION.....	93
5.1 Introduction.....	93
5.2 The Pilot Study	93

5.2.1 Results.....	93
5.2.1.1 Between Group Comparisons of Improvement.....	93
5.2.2.1.1 An Independent Samples t-test Results of Phonological Awareness.....	94
5.2.2.1.2. An Independent Samples t-test Results of Word Recognition.....	95
5.2.2.2 Within Group Comparisons of Improvement	95
5.2.2.2.1 A Paired Sample t-test Results of Phonological Awareness	96
5.2.2.2.2 A Paired Sample t-test Results of Word Recognition.....	98
5.3 Insights Drawn from the Pilot Study	99
5.4 The Main Study.....	101
5.4.1 Introduction.....	101
5.4.2 Results and Discussion	101
5.4.2.1 Results.....	102
5.4.2.1.1 Between Group Comparisons of Improvement.....	102
5.4.2.1.1.1 An independent Samples t-test Results of Phonological Awareness	102
5.4.2.1.1.2 An Independent Samples t-test Results of Word Recognition.....	104
5.4.2.1.2 Within Group Comparisons of Improvement	105
5.4.2.1.2.1 A Paired Sample t-test Results of Phonological Awareness	106
5.4.2.1.2.2 A Paired Sample t-test Results of the Word Recognition	108
5.4.2.1.3 Results of a Linear Regression Analysis.....	109
5.4.2.2 Discussion	110
CHAPTER SIX	114
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	114
6.1 Introduction.....	114
6.2 Summary	114
6.3 Conclusions.....	116
6.4 Recommendations.....	117
REFERENCES.....	120
APPENDICES.....	132
Appendix A: Experimental group’s training lessons and teacher’s guide.....	132
Appendix B: Control group’s word study and vocabulary lessons from Grade Three English textbooks.....	262
Appendix C: Teachers’ Training Guide.....	264
Appendix D: Testers’ Booklet	271

Appendix E: Students' Stimuli Sheet	283
Appendix F: Test/Retest Reliability Result	284
Appendix G: Inter raters' Reliability Result	285
Appendix H: Classroom Observation Checklist	287
Appendix I: Raw data for the main study	289
Table 1: Ethiopia Tikdem (Control Pre-Test)	289
Table 2: Ethiopia Tikdem (Control Post-Test)	290
Table 3: Haiq (Experimental Pre-Test)	291
Table 4: Haiq (Experimental Post-Test)	292

DEDICATION

In memory of My Beloved Mother Woizero Wegayehu Getachew and My Father Ato Zewdu Agegnehu

ACRONYMS AND ABBREVIATIONS

AIR:	American Institute for Research
CVC:	Consonant, vowel, consonant
EFL:	English as a Foreign Language
ESL:	English as a Second Language
ELT:	English Language Teaching
EGRA:	Early Grade Reading Assessment
EMI:	English as a medium of instruction
ESDP:	Education Sector Development Program
FDRE:	Federal Democratic Republic of Ethiopia
FWR:	Familiar Words Reading
H1:	Alternative Hypothesis
H0:	Null Hypothesis
IWR:	Invented Words Reading
LLC:	Low Literacy Capital
MoE:	Ministry of Education
PA:	Phonological Awareness
RTI:	Research Triangle International
READT-TA:	Reading for Ethiopia's Achievement Developed Technical Assistance
USAID:	United States Agency for International Development

LIST OF TABLES

Table 1: Phonological Awareness Test (PAT) results of the independent samples t-test for the experimental and control groups in the pilot study (posttest).....	94
Table 2: Word Recognition Test results of the independent samples t-test for the experimental and control groups in the pilot study (posttest).....	95
Table 3: Results of the paired samples t-test for phonological awareness test in the experimental group in the pilot study	96
Table 4: Results of the paired samples t-test for word recognition in the control group in the pilot study.....	97
Table 5: Results of the paired samples t-test for word recognition in the experimental group in the pilot study.....	98
Table 6: Results of the paired samples t-test for word recognition in the control group in the pilot study.....	99
Table 7: Phonological awareness test results of the independent samples t-test for the experimental and control groups in the main study (posttest)	103
Table 8: Word recognition test results of the independent samples t-test for the experimental and control groups in the main study (post-test).	104
Table 9: Phonological awareness test results of the paired samples t-test for the experimental group in the main study.....	106
Table 10: Phonological awareness t results of the paired samples t-test for the control group..	107
Table 11: Word recognition test results of the paired samples t-test for the experimental group in the main study	108
Table 12: Word recognition results of the paired samples t-test for the control group in the main study.....	109
Table 13: Linear Regression Analysis with Word Recognition and PA Sub-tests.....	110

LIST OF FIGURES

Figure 1. Conceptual framework diagram.....	22
Figure 2. Word Analysis Template	80
Figure 3. Spelling with Elkonin Boxes	80

ABSTRACT

In this study attempts were made to investigate the effects of an explicit rime based phonics method on the phonological awareness and word recognition outcomes of Grade Three students at public primary schools in Hawassa. More specifically the study tried to examine the efficacy of an explicit rime based phonics method on students' phonological awareness at rhyme, onset-rime and phoneme levels and their accuracy and fluency in reading learned words, invented words and non-instructed or novel words. Furthermore, the study attempted to identify the phonological awareness levels and subskills/tasks that best predict students' word recognition development. This research project was quasi experimental in design. Data was gathered twice using tests, once before the intervention pre-test and after the intervention post-test. Pre-test and post-test mean scores were analyzed using a t-test statistical procedure, Linear Model Regression Analysis and Cohen's *d* effect size calculator. The study involved four public primary schools in Hawassa: Nigistu Fura and Tabor Primary Schools (for the pilot study), Haiq and Ethiopia Tikdem (for the main study). In each school, one Grade Three section was randomly selected and assigned into either experimental or control group. The main participants of the study were two sections of Grade Three students ($N=92$) from the two primary schools. Beginning reading lessons embedded in word study and vocabulary activities with an explicit rime-based phonics method was prepared and used with the experimental group. The word study and vocabulary activities with no explicit rime based phonics method from Grade Three English textbooks was used with the control group. The intervention was conducted by the actual Grade Three English teachers who were trained by the researcher prior to the intervention. Both groups received two hours of extra lessons for 16 weeks. The effect of an explicit rime based phonics method on students' phonological awareness and word recognition outcomes was examined through the pre and post phonological awareness (PAT) and word recognition (WR) tests. The results of the pre-test showed that there was no significant difference in the students' phonological awareness and word recognition outcomes between the groups. The results of the post-test in all cases revealed that there was a significant difference between the groups in phonological awareness and word recognition outcomes with the experimental group achieved significant improvements. The Cohen's *d* output showed that the magnitude of the intervention effect in the experimental group was large for all subtests and the total phonological awareness and word recognition outcomes. Besides, the result of linear regression analysis revealed that phonological awareness at onset-rime and phoneme levels and phonological awareness sub-skills/tasks such as rime blending, phoneme deletion and phoneme substitution were found to be important predictors of students' word recognition development.

CHAPTER ONE

INTRODUCTION

The overall aim of this study was to identify the effects of early grade reading instructional methods on the development of students' reading skills. The study attempted to test the effectiveness of an explicit rime-based phonics method on the acquisition and development of basic reading skills, particularly phonological awareness, and word recognition performance in EFL primary school students in Ethiopia. This chapter discusses the theoretical and empirical knowledge base, the problem statement, the objectives, hypotheses, scope, significance, and conceptual and theoretical frameworks of the study and provides operational definition of the terms and concepts used in the study.

1.1 Background of the Study

The effects of globalization and the technological advances and societal changes experienced worldwide strengthen the connection between knowledge and development. This has led to the ability to read any language becoming the most important skill for acquiring knowledge in various subject areas (UNESCO, 2013). The ultimate goal of early reading education, therefore, is to help children acquire and develop the basic reading skills that will eventually lead them to develop full literacy, achieve the ultimate purpose of reading which is the comprehension of written material and expand the possibilities of acquiring knowledge through reading (Ehri et al., 2001; MoE, 2009; UNESCO, 2013).

Reading development research has identified some basic or foundational skills associated with the successful acquisition and development of reading skills (Ehri, et al., 2001). The basic skills fall into three main areas: (a), phonological awareness (b) orthographic processing skill and (c) word recognition or print knowledge. The first two knowledge domains are prerequisites for the acquisition and development of the third domain, and all three of these knowledge domains are influenced by different contexts, such as classroom instructional methods (Ehri et al., 2001; Olateju, 2010; Goswami et al., 2001).

Word recognition refers to the ability to quickly (effortlessly) and correctly recognize the pronunciation of printed words in the process of grasping meaning (Choi & Zhang, 2021). Most researchers agree that comprehension is not possible without reading the words accurately and fluently (Han, 2005). When children read words fluently, they reduce the cognitive load associated with reading, freeing up working memory that allows them to

focus their attention on meaning (Ehri, 2005; Share, 2004; Perfetti, 2003, 2007; Snowling & Hulme, 2005).

Learning to read words fluently and accurately involves the development and integration of a range of language skills and cognitive processes (Han, 2005). Ehri (1991) states that in order to develop effective word recognition, children must first have adequate phonological and orthographic knowledge and processing skills. In other words, children should first learn and memorize the connections between written and spoken units of a given language. Next they have to use the connections and decode or read as many words as possible. This process allows children to build their sight vocabulary and also to establish orthographic (visual) representations of words in their mental lexicon. Once they have created these representations, they can automatically retrieve word pronunciations and comprehend texts well (Ehri, 1991, 2001, 2005).

Phonological awareness is a set of knowledge and skills about the sound structure and characteristics of spoken words in a given language. Phonological awareness allows one to identify and manipulate the sound units that make up words (Reynolds, 1998).

A meta-analysis report from the National Reading Panel (Ehri et al., 2001), suggests that in order to read words accurately and fluently, children should first develop phonological awareness or an understanding of the structure of sound units (i.e., syllables, onset-rime, and phonemes) in words in a specific language. Phonological awareness enables children to recognize sound units in spoken language, and this knowledge provides a basis for matching letters to sounds as they learn to read words (Munro, 1998).

Evidences have linked failures in early development of word recognition only to children's inability to process the visual (orthographic) information in words. However, recent evidences have also shown that the problems are largely due to deficiencies in processing auditory (phonological) rather than visual (orthographical) information (Milankov, Golubovic & Krstic, 2021; Otaiba et al., 2012). Children with low phonological awareness cannot decode words accurately and quickly, and inability to identify and process the sound units of spoken words is the most popular cause of children's reading difficulties (Choi & Zhang, 2021; Torgesen et al., 1997).

Phonological awareness cannot be acquired naturally or automatically, but is developed gradually across various developmental stages (Cunningham et al., 2004). According to a

progressive theory of phonological development described by Treiman (1988), “as children develop phonological awareness, they can progress from the ability to divide spoken words into syllables, to the ability to divide syllables into onsets and rimes, and finally to the ability to segment onset and rime into phonemes” (p. 525). Thus, Blachman et al. (2000) consider phonemic awareness which is the ability to identify and work with the smallest sound units –phonemes, to be the highest level of phonological awareness, and teaching phonological awareness provides a strong foundation for developing phonemic awareness.

Phonemic awareness is the ability to identify, segment, blend, and manipulate the smallest units of sound –phonemes in words (Goswami, 2008). Phonemic awareness is vital to developing reading skills because of the following reasons. First, it enables children to become aware of the alphabetic principle. Second, it allows children to develop the knowledge of grapheme-phoneme correspondence (GPC), which is crucial for children to fluently and efficiently read words. Third, it helps children to identify and manipulate (delete or replace) the initial, middle, or final sounds in words, and this enables them guess unfamiliar words more accurately based on one or more of these sound units (Torgesen et al., 2005). Insufficient or poor development of these skills can lead to impaired reading development (Vellutino et al., 2004; Seymour et al., 2003; Sucena et al., 2015).

Orthographic knowledge or processing skill refers to the ability to form, store and access orthographic representations of words or parts of words. It is about letter positions, combinations, and sequences that make up words, or information stored in memory that tells how spoken words are represented in written form (Sucena et al., 2015). Orthographic knowledge or processing skill is one of the most important sub-skills for visually recognizing words.

It has been reported that orthographic processing is less important when decoding transparent orthography. This is because in transparent writing systems, the pronunciation of an unknown word can be guessed based on the word's phonological information. While in less transparent orthographies such as English, the pronunciation of an unknown word can be guessed by relying more on the word's orthographic information than on its phonological information (Piper & Agatha, 2016; Ellis et al., 2004; Ziegler & Goswami, 2005). For example English words share common letter patterns (e.g. syllables, rime, morphemes) that act as an orthographic unit rather than being decoded letter by letter (Georgiou et al., 2008).

Orthographic depth is one of the orthographic properties of written languages. It refers to the degree to which the written unit consistently represents the spoken unit of a particular language. According to Seymour, Aro and Erskine (2003); Ellis et al. (2004) and Ziegler and Goswami (2005), orthographic depth affects the effectiveness of children's word recognition development. The greatest contrast is between transparent/consistent languages, where a letter corresponds only to a specific sound or syllable and less transparent/inconsistent languages, where a letter does not always consistently represent a specific sound or syllable. The Orthographic Depth Hypothesis (ODH) underscores that word recognition in languages with less transparent orthographies e.g., English is more difficult than languages with transparent orthographies (Frost, Katz, & Feldman, 1983).

Unlike oral language skills, reading and writing (literacy) skills are learned skills that can be acquired and developed as a result of instruction. There are two well-known early grade instructional approaches to teaching basic reading skills in English. The first approach is often referred to as the whole-to-part or whole-word approach. The whole-word approach teaches children to copy and store the orthographic image of a given word and to memorize its pronunciation. It also encourages children to guess the pronunciation of new or an unfamiliar word using the orthographic appearance (letters) of the word or based on context clues, without considering the letter-sound correspondences (Goodman, 2001; Synder & Golightly, 2017).

In the whole word approach, children are immersed in high-print rich environments and the teacher is expected to facilitate children's self-directed developmental process (Bowers, 2020). Since the whole word approach contains too little systematic instruction in phonics and relies too much on incidental or 'natural' learning, proponents of such an approach believe that reading is a natural process that develops at similar stages to listening and speaking, and that children can learn letter-to-sound association implicitly from the words they read (Christensen & Bowey, 2005; Connelly et al., 2001).

Whole word has been challenged because there is nothing natural about the alphabetic codes invented to represent speech (McGuinness, 2004, 2006). The philosophical beliefs on the whole word are not founded on scientific research (McGuinness, 2004; Vellutino et al., 2004). Empirical evidence by Jeynes and Littell (2000) revealed that whole-word approach is less effective as it allows children to read only words they have been exposed to and memorized their pronunciation, but not new or unfamiliar ones.

On the other hand, there is growing evidence that a part-to-whole approach such as phonics is more effective in developing children's basic reading skills than the whole word approach because it explicitly teaches alphabetic principles, phonological and orthographic processing skills, which enable children read both familiar and new or unfamiliar words and increase their sight vocabulary (Ehri et al., 2001; de Graaff, et al., 2009; Perfetti, 1985, 1986).

The phonics approach is also called a systematic and explicit phonologically- based approach that values the phonological and orthographic components of words as it focuses teaching word recognition (Honing, Diamond & Gutlohn, 2000). Phonics has been described as both “...a system for encoding speech sounds into written symbols. . . [and a way of] teaching learners the relationships between letters and sounds and how to use this system to recognize words” (Mesmer & Griffith, 2005, p. 366–367). In this instructional approach children are explicitly exposed to letter-sound or letters-sounds correspondences and syllable or onset-rime segmentation, blending, manipulating and ways of employing these knowledge and skills to decode words (Maddox & Feng, 2013).

The advocates of phonics approach argue that explicit phonics instruction is particularly beneficial in helping children discover the alphabetic principle (Snow & Juel, 2005; Tunmer & Nicholson, 2011). Once children have grasped the alphabetic principle, they are able to begin making orthographic representations of words on their own and therefore make word recognition development more learner dependent over time (Share, 2004; Christensen & Bowey, 2005; Cassidy & Smith, 2004; Connelly, Johnston & Thompson, 2001).

There have been a number of research studies, both singular (e.g., Ziolkowski & Goldstein, 2008; Bailet et al., 2011; Duff, Hayiou-Thomas, & Hulme, 2012; Duff et al., 2015) and comparative (e.g., Qi & Connor, 2000; Maslanka & Joseph, 2002; Justice et al., 2003), that verified that direct explicit phonics instruction resulted in significant gains in word recognition for participants in these studies.

Teaching methods in the phonics approach vary according to the level and type of phonological awareness they intend to develop or the size of the functional units they use while teaching phonological awareness. In this regard, the National Reading Panel has identified two methods of phonics, namely synthetic phonics, which uses the smallest units in words - the phonemes to develop phonological awareness at phoneme level (i.e.,

phonemic awareness) and analogy or rime based phonics that considers larger units in words -onset-rime or syllable to develop phonological awareness at word, syllable, onset-rime and phoneme levels (Ehri, et al., 2001).

In recent years there has also been an ongoing debate on the effectiveness and choice of the explicit phonics method -synthetic or analogy? When Savage, Carless and Stuart (2003) explained this issue, they noted that “Indeed it is arguable that the important questions about phonologically- based interventions are now no longer ‘do they work?’ but rather, ‘which are the optimally efficacious interventions?’ and ‘how do they operate?’ “(p. 212).

The debate over the choice of phonics methods has been further accentuated following the work of Ziegler and Goswami (2005) on psycholinguistics grain size theory. According to this theory, phonological awareness is the foundation upon which phonics is built and the level of phonological awareness may vary with the depth of orthography of the language being learned. In transparent orthographies, where a letter corresponds in principle only to a specific sound unit (phoneme), phonological awareness at phoneme level (i.e., phonemic awareness) may be a more important predictor of reading success, and synthetic phonics method that uses small grain sizes (i.e., graphemes and phonemes) can be an effective method of teaching. Once children have memorized and stored the grapheme to phoneme connections (GPCs), they will be able to decode or pronounce any words in that language, as well as invented, meaningless words (i.e., pseudo or non-words) (Ziegler & Goswami, 2005).

However, in less transparent orthographies like English, it is an onset- rime unit that is very consistent in representing sounds than a letter does. For example, the words *family*, *fail*, *nail*, *tail*, *bail* all have *-ail* rime, and the words *brown*, *break*, *brush* all have *br-* onset. The rime *-ail* and the onset diagraph *br-* represent the same sounds across all the words. However the letter *a* represents different sounds in each of the following word, *air*, *ball* and *ant*. Therefore, English reading acquisition and development is predicted by both phonemic and onset- rime awareness (Ziegler and Goswami, 2005; Anthony et al., 2003).

Scholars such as Johnston (1999) claims that in English, just teaching children the correspondence between letters and sounds and asking them to apply that knowledge to read unfamiliar words is asking them to do something abstract, difficult and often not possible. Because there is not always a one-to-one correspondence between letters and

sounds, especially for the vowels, and so such a synthetic phonics method would not work for *air*, *apple*, and *ball*. In order to reduce such an inconsistency and help the children decode new or unfamiliar words in English easily and quickly, they need to also receive instruction that teaches larger consistent orthographic units such as onset- rime and a word decoding strategy that utilizes these units.

Analogy phonics is also called rime-based or onset-rime phonics method because it deals with onset- rimes and their orthographic and phonological representations in words (White 2005). Rime-based phonics is a phonologically-based method that has received attention in reading research and it involves teaching phonological and orthographic skills for remembering sight words and reading unfamiliar words using orthographic rime analogy or analytic word-reading strategy (Ehri & Robbins, 1992; Goswami, 1988, 1991; Goswami & Bryant, 1990; Greaney & Tunmer, 1996; Treiman, 1992; Wylie & Durrell, 1970).

Rime-based phonics teaches children to generate and use rime families of words such as *hat*, *cat*, *fat*, *mat*, *bat* and so on and due to this reason, some scholars, for example, Johnston (1999) also refer this method as a word family instruction.

An onset is the initial consonant or consonants that precede the vowel in a syllable. A rime is an intra-syllabic unit consisting of a vowel followed by one or more consonants (White, 2005). The ability to read unfamiliar words using an orthographic analogy strategy requires the reader to be able to recognize familiar orthographic (spelling) patterns in the words to be read. For example, reading the unfamiliar word *zight* by making analogy to a familiar word *night*. The familiar orthographic pattern that generates the analogy is usually found within the rime (e.g., *-ight* in the given example) and that is therefore referred to as rime-based (Goswami, 1988, 1991; Hines, 2009; Goswami, 1993; Savage, Carless, & Stuart, 2003). Unlike rhymes, which sound similar but don't necessarily look the same, rimes are consistent both orthographically and phonologically (Hines, 2009).

According Ziegler and Goswami (2005); Ehri (1992, 2005) and Gaskins (2004), rime-based phonics is a helpful method of increasing the number of sight words in memory and read unknown words using both phonemic and orthographic cues. Since rime units are the highest consistent units in English orthography, studies have shown that rime and phoneme level phonological awareness are important predictors of reading success in children learning to read in orthographically inconsistent languages such as English.

Rime-based phonics instruction teaches children to identify, analyze and manipulate the phonological and orthographic structures of rime units and the rime families of words (Johnston, 1999). Thus the method helps children to become aware of rhyme phonological units and rime orthographic/spelling patterns in words, and this orthographic insight in turn helps to develop phonemic knowledge of all the constituent phonemes in a given word (Ehri & Robbins, 1992; Wood, 2000; Gaskins, 2004; Booth & Perfetti, 2002; Goswami, 1998; Lovett et al., 2000).

This process allows children to store the orthographic representations of the given word in their mental lexicon. Once an orthographic representation of the word has been formed in memory, the word can be recognized by sight and it can also be used to decode a range of other words that share the same orthographic/spelling pattern or rime unit with the word through analogy strategy (Cunningham, 2000; Gaskins, 2004; Goswami, 1998; Lovett et al., 2000). Rime-based phonics instruction makes this possible because it consists of explicit instruction in phonology (rhyme), orthography (rime), and the connection between the two (analogy) (Goswami, 1993; Adams, 1990; Walton et al., 2001).

Rimes bring the English orthographic (spelling) into consistency because they greatly reduce inconsistencies in the association of vowel letters with sounds. Hence rime based phonics method helps children read unfamiliar English words correctly and fluently by minimizing the reading barriers arising from the inconsistent nature of the English orthography (Goswami, 1998; Zigeler & Goswami, 2005; Johnston, 1999). This argument is supported by the results of different research outcomes. For example, Zigeler and Goswami, (2005), found that a child who has learned 600 orthographic rime patterns can read the 3,000 most frequent monosyllabic words in English. In addition, Wylie and Durrell (1970) showed that the knowledge of only 37 rime spelling patterns enabled beginning readers to recognize 500 of the most frequently occurring words in beginning reading materials.

Adams (1990) explained that rimes are simpler, more psychologically accessible sound units than phonemes or syllables and hence segmenting words into onset and rime is relatively easier than segmenting them into their phonemic components (Booth & Perfetti, 2002; Goswami & Mead, 1992; Savage & Carless, 2004). Furthermore, blending onset and rime units into words is easier for beginners and weak readers to read words quickly than

blending individual phonemes (Walton, Walton & Felton, 2001; Ehri & Robbins, 1992 and Adams, 1990).

Though there is some disagreement about how quickly young readers are able to use analogies (Ehri & Robbins, 1992; Goswami & Bryant, 1992), there is a consensus that all readers eventually develop this strategy for remembering sight words and reading unfamiliar words, and to spell words accurately and efficiently. The Benchmark Word Identification program (Gaskins et al., 1988; Gaskins) is an example of the effectiveness of such a method for helping children use familiar keywords with common spelling patterns (rimes) to decode new words by analogy.

According to Savage, Carless and Stuart (2003); Hines (2009); White (2005) and Goswami (1998), the different phonics methods currently used to teach basic reading skills mainly in alphabetic languages such as English and the way the methods are implemented in classrooms around the world and their impact on different groups of learners (e.g., first, second and foreign) has become a central and important area of research. Hence, it is important to understand the effectiveness of an explicit rime-based phonics intervention in promoting students' reading achievement in Ethiopia, where English is becoming increasingly important, but much support is lacking in learning the language.

1.2 Statement of the Problem

The Education and Training Policy (ETP) of 1994, which emerged from the 1991 regime change in Ethiopia, proposed significant changes and directives in the country's education system. Directives include expanding access to basic education and using nationality languages as the language of instruction in primary school, and teaching English as a subject from the first grade and using it as the language of instruction in secondary and tertiary education (MoE, 1994). Since then, over the past two decades, the Ethiopian government has implemented a series of five-year Education Sector Development Programs (ESDP I-V) as part of a twenty-year Education Sector Development Plan to sustain the directives of the education and training policy. The fifth, ESDP V, has been in implementation since 2014/15 (MoE, 2015). In addition, under the ESDP, the Ministry of Education has developed and implemented another program called the General Education Quality Improvement Package (GEQIP) in cooperation with the World Bank to improve the access and quality of education in the country. The third phase, GEQIP III, of this

program is currently underway. Because of these and other massive initiatives and efforts, the country has made remarkable progress in primary school enrollment.

Although there are significant achievements in Ethiopia in terms of access and equity in primary education, the quality of primary education has been a critical concern (Piper, 2010). Evidences from five national learning assessments (NEAEA, 2000, 2004, 2008, 2012 and 2016) and a comprehensive early grade reading assessment (EGRA) conducted in both English and six nationality languages, have validated the claim that the quality of primary education is at stake (Smith, Stone & Comings, 2012; Piper, 2010). The Ministry of Education in Ethiopia claims that reading achievement in the early grades is an indication of the quality of the early part of the school system (Smith, Stone & Comings, 2012). Accordingly, the quality of reading in the early grade has recently been evaluated at different times.

Five national learning assessments (NLA) at the first and second cycles of primary education were carried out by the National Education Assessment and Examinations Agency (NEAEA). In 2000, the baseline national learning assessment (BNLA) was undertaken (NEAEA, 2000). In 2004 the second national learning assessment (SNLA: NEAEA, 2004), and in 2008 the third national learning assessment (TNLA: NEAEA, 2008), in 2012 the fourth national learning assessment (FNLA: NEAEA, 2012), in 2016 the sixth national learning assessment (SNLA: NEAEA, 2016), was conducted. The main objective of the national learning assessments was to determine what primary school students achieved upon completion of first cycle (Grade Four) and second cycle (Grade Eight) in light of the minimum learning competencies set by the Ministry of Education. The results of NLA demonstrated that the reading achievement of primary school children in Ethiopia is below average (50%) and steadily declining. The composite score for English reading achievement in Grade Four was 48% in 2000, 38% in 2004, 36% in 2008, 38% in 2012, and 42% in 2016 respectively (NEAEA, 2000, 2004, 2008, 2012 and 2016).

Besides, the Early Grade Reading Assessment (EGRA) revealed that Ethiopian children's English reading performance and primary schools' EFL reading instruction in the country is poor. The assessment was conducted by the American Institutes for Research (AIR) through the TELL program in partnership with the Ministry of Education (MoE) and funded by USAID. Children from the public schools who had completed Grades Two, Three, and Four were included in the assessment. A total of 19,603 children from nine

regional states and two city administrations (Addis Ababa & Dire Dawa) were tested on their knowledge of letter naming, phonemic awareness, reading known and pseudo-or unfamiliar words, reading comprehension, listening comprehension and spelling. The result showed that most schools in Ethiopia had very little reading instruction and children were not learning the basic reading skills needed to develop their skills to read in English. About two-thirds of the children were unable to demonstrate the knowledge and skills required for the minimum learning competencies set out in the curriculum for each grade level. Specifically, of the second graders in all regions, between 63% and 90% achieve below grade level and only 2% to 17% achieved at grade level. Children in third grade performed 50% to 87% below their grade level and 7% to 24% achieved their grade level. The result also revealed that a significant percentage of children who attended school for two to three years could not read a single word of English and disparities were also observed by gender and rural/urban location (Smith, Stone & Comings, 2012).

This was also supported by another studies by Gove and Cvelich (2010); Chanyalew and Abiy (2015a,b); Endalkachew (2017); Fekede and Hailu (2019); Solomon and Chanyalew (2019) and Tsehay (2013). For example in their study Gove and Cvelich (2010) found out that about 35% of children who started Grade Three could not read a single word of a one paragraph story after two years in schools. Besides, a study by Tsehay (2013) confirmed that even fourth-graders in her study area could read an average of only 27 words per minute and the remaining 7% of the group were zero word readers. The children's average reading speed of non-words was 19 words per minute, with 13% of them scoring zero.

Alarmed by these results, the Ministry of Education of Ethiopia has made various efforts in collaboration with different development partners so as to improve the quality of early grade reading instruction and students' reading achievements both in English and nationality languages. One of the largest initiatives in this regard is called Reading for Ethiopia's Achievement Development (READ) which was begun by USAID and the Ethiopian Ministry of Education. The goal of this large, five year programme was to improve the reading and writing skills of 15 million children from Grades 1 to 8, in English and seven of the most widely spoken languages in Ethiopia. Following two years of curriculum revision and materials development, the first phase of the project was officially launched in October 2014 and completed in 2019. The second phase of a similar five years project is now underway (MoE, 2020). In its 2018/19 report, USAID-READ

noted that while the project revised the reading curricula, trained teachers, school leaders, and principals to implement the revised curricula and provided additional reading materials to schools, the end line children's reading assessment results disclosed that there has been little progress/ improvement in overall reading performance nationally, with differences too small to be considered practically significant (USAID, 2018).

There are, of course, many possible reasons why a student may experience difficulty in learning to read in the early years of their schooling. Of the outside influences, are the inadequate numbers of trained teachers and the teaching methods they employ in their classrooms (see: Beyani, 2013; Cunningham et al., 2004; White, 2005; Ehri et al., 2001; de Graaff et al., 2009; Vellutino et al., 2004).

More recently, teaching methods has been strongly confirmed as a major causal factor. For example Vellutino et al. (2004) pointed out that ineffective educational practice (i.e., teaching methods) highly contribute to children's difficulty in learning and developing basic reading skills. Several reports have concluded that certain teaching methods are far more effective than others in teaching children to read (House of Commons Education and Skills Committee, UK, 2005; Ehri et al., 2001; Rose, 2006). But these reports also note that these effective methods are not always used in schools.

Research studies have indicated clearly that children need to be explicitly taught the phonological and orthographic structures of words and given trainings on how to manipulate the structures and apply principles in order to decode and spell unfamiliar words (Coltheart & Prior, 2000, Tan et al., 2007). According to Simmons et al. (2007), there is a window of opportunity to teach young children these decoding skills, using well focused and intensive instruction. Finn (2000, iii) suggests that, 'Millions of children are needlessly classified as 'disabled' when, in fact, their main problem is that nobody taught them to read...'

Studies by Ojanen et al. (2013) and Lyytinen and Richardson (2014) revealed that ineffective early-grade reading instruction affects millions of EFL/ESL children in Africa and elsewhere. Similarly, most studies in Ethiopia (see: Almaz, 2015; Endalkachew (2017); Belilew, 2016; Smith, Stone & Comings, 2012; Dereje, 2012) underscored that children in Ethiopia are not learning the foundational skills of reading before completing primary school, mainly because of the poor or ineffective teaching methods of the teachers.

The teachers were not taught the basic elements of reading and how to teach them. For example, a research conducted by Dereje (2012) revealed that first cycle primary school (Grades 1-4) teachers did not get sufficient preparation on how to teach basic reading skills in English. The study indicated that two-third of teachers reported not having any in-service training in teaching children how to read in English and 61% reported not having any in-service training at all. In the same line, in his study Belilew (2016) concluded that majority of the teachers teaching early reading in his research area did not have appropriate educational background. They were from language stream, social sciences stream, sport science and mother tongue. These teachers were not professional teachers and they did not know what to teach and how to teach reading skills. They were quite strange to the concept of component skills of early reading.

Most English teachers in public schools in Ethiopia tend to teach to learn to read in English through memorization or using a method that shares characteristics of the whole word approach. Teachers often begin by teaching the names of the letters of the alphabet rather than teaching the sounds of the letters. Teachers typically point to words written on the blackboard or in student texts and model their pronunciations, which are then recited by the rest of the class. Teachers encourage children to copy the orthographic images of the words and memorize their pronunciation by reading the words repeatedly. Teachers do not explicitly teach phonological or/and phonemic awareness and orthographic knowledge and processing skills (Almaz, 2015; Endalkachew (2017); Belilew, 2016; Smith, Stone & Comings, 2012; Dereje, 2012; Gove & Cvelich, 2010).

The researcher of this study was also able to confirm this fact through informal interviews with primary school English teachers, observations during in-service teacher education programs, and school-based mentoring and support activities in some public schools in SNNP, Sidama, Amhara, and Oromia regional states and preliminary lesson observations conducted in third grade English language reading classes at Stadium, Kike, Tabor, Nigist Fura, Haiq, Gebeya Dar and Ethiopia Tikdem Primary Schools in Hawassa.

Multiple evidences from empirical studies (see: Erhi, et al., 2001; Foorman, 1995; Jeynes & Littell, 2000; Zalewska-unkiewicz et al., 2016; Diuk et al., 2019) have indicated that the whole-word approach is less effective way of teaching basic reading skills compared to phonologically- based approaches such as phonics. Because children taught through this approach have no knowledge of the relationships between written and spoken units that

make up a given word, they can only recall the pronunciation of words to which they have been exposed to, but not new or unfamiliar ones.

Furthermore, the whole word does not explicitly teach phonological and orthographic knowledge and processing skills, given that children can learn these skills implicitly from the words they hear, see, speak, and read (Walton and Walton, 2001). For this reason, scholars such as Ryder et al. (2007) and Tunmer et al. (2006) argue that the approach can help children who speak English as their first language and those who benefit from nurturing conditions and support systems, including home reading, role models, encouragement from others, and rich oral and written communication experiences to English.

Most children in public schools in Ethiopia lack such social and environmental support systems as they live in a non-English speaking context and their parents most likely cannot speak, read and write English (Hugh, 2007; MoE, 2020; Fekede & Hailu, 2018; AIR, 2012, 2016). According to Huo and Wang (2017); Zalewska-unkiewicz et al. (2016) and Diuk et al. (2019), this is one of the reasons why most EFL children and children attending school from socially and environmentally disadvantaged backgrounds, often have low phonological and/or phonemic awareness and delayed word recognition development compared to English speakers. Ehri et al. (2001); Porta and Ramirez (2019) and Raspin et al. (2019) contend that children who do not have strong phonological or/and phonemic awareness and orthographic knowledge tend to use Distinctive Visual Features when reading, using some letters from a word to support a guess to read unfamiliar words. These strategies are less effective for reading English words because the exact phonological representation of a given English word cannot be deduced simply from its spelling (Ellis et al., 2004; Ziegler & Goswami, 2005; Goswami, 1998; Goswami & Bryant, 1990).

The EGRA result showed that primary school students in Ethiopia have low phonemic awareness (46%) and word recognition performances. The result revealed that the students' ability to read familiar words (21%) and read unfamiliar words with phonemic cues (15%) was well below average.

Studies by Cunningham et al. (2004); White (2005); Ehri et al. (2001); de Graaffe et al. (2009); Vellutino et al. (2004) underscored that adequate and effective reading instruction in the early grades influences the acquisition and development of reading skills more than

any other single factor. A study by Belilew (2016) indicated that most teachers do not teach phonological awareness skills. “The data found from the observations showed that the teachers were not seen using phonological awareness activity in the observed sessions...56 (84.9%) of teachers said that they did not receive training on phonics skill in colleges” (Belilew, 2016:19). This implies that teachers have no awareness about teaching basic or foundational reading skills.

Based on the findings of the studies discussed so far and actual classroom observations, the researcher of this study believed that one of the causes of the poor reading performances of primary school children in Ethiopia might be insufficient or poor development of basic or foundational reading skills, which stem from poor instructional methods used by the teachers. This is because insufficient or poor development of basic reading skills can lead to impaired reading skills development (Vellutino et al., 2004; Seymour et al., 2003; Sucena et al., 2015; Kyle et al., 2013). According to Pressley (2006) reading and writing (literacy) instruction must therefore include explicit teaching and practice of these essential foundational skills so that all students can read fluently, confidently and with understanding.

Given the current empirical findings and theoretical assumptions, the researcher therefore hypothesized that an intervention in phonologically-based instruction specifically the use of explicit rime-based phonics method could help improve students’ achievement in basic reading skills and curb the problem.

Gunderson (2014) and Goswami (1998) noted that students who have limited or no exposure to spoken and written English should be exposed to phonologically-based instruction that explicitly teaches phonological awareness, as well as orthographic knowledge and processing skills and encouraged to use more effective learning strategies, such as the use of rime unit analogies

Most reading researches in early grades in Ethiopia have aimed to either assess children's reading achievements or to examine the practices and challenges of teaching reading in the country. The studies followed a survey research methodology and used tests, questionnaires, interviews and classroom observations to collect appropriate data, describe the situation and recommend intervention measures (see: Almaz, 2015; Beilew, 2016; Derje, 2012). So far, however, little effort has been made to empirically test the

effectiveness of phonologically based instructions on the reading development of children in Ethiopia. To fill this gap and also recommend research proven teaching method that can be used to improve the early grade EFL reading instruction and children's achievement in basic reading skills, the researcher designed and implemented an intervention study based on explicit rime -based phonics method and examined its effects on the phonological awareness and word recognition performances of Grade Three students in public schools in Ethiopia.

Further, while explicit rime based phonics instruction is a fairly well-researched area, no local studies have been conducted in the area so far and most of the foreign studies were also conducted on children with reading difficulties either in first (L1) or second language (ESL) settings. As far as the knowledge of the researcher is concerned, very little has been known so far about the effects of such an instruction on EFL students' phonological awareness and word recognition development.

In most of the studies, the implementers of the intervention were the researchers themselves. Furthermore, majority of the studies were undertaken in special intervention programs which were contextually detached from the participants' actual learning environment (e.g. Ball & Blachman, 1991; Lundberg, 1994; Lundberg, Frost & Peterson, 1988; Stuart, 1999; Evens, 2013; Hines, 2009; Walton, Walton & Felton, 2001; White, 2005; Conrad & Levy, 2011; Schnhal et al., 2012; Ouellette & Schnchal, 2008). Thus, there still exists a conceptual and practical knowledge gap regarding the level of applicability of an explicit rime based phonics instruction by the actual classroom teacher in the students' actual classroom environment. Therefore, providing empirical evidence to the intellectual community in this regard and bridging the knowledge gap was the other concern of the study.

1.3 Objectives of the Study

This study was designed to examine the effects of an explicit rime-based phonics method on phonological awareness and word recognition outcomes of primary school EFL students in Ethiopian. There were two conditions: (a) an explicit rime-based phonics method (b) English language activities focusing on word study and vocabulary learning as a treated comparison. Specifically, the study aimed to:

- Measure the phonological awareness outcomes Ethiopian Grade 3 EFL students could make at rhyme level if taught basic reading skills with an explicit rime based phonics method.
- Test the phonological awareness outcomes Ethiopian Grade 3 EFL students could make at onset- rime level if taught basic reading skills with an explicit rime based phonics method.
- Determine the phonological awareness outcomes Ethiopian Grade 3 EFL students could make at phoneme level (phonemic awareness) if taught basic reading skills with an explicit rime based phonics method.
- Infer the word recognition outcomes Ethiopian Grade 3 EFL students could make in remembering sight words (reading instructed words) if taught basic reading skills with an explicit rime based phonics method.
- Detect the word recognition outcomes Ethiopian Grade 3 EFL students could make in reading invented words (decoding nonsense words), if taught basic reading skills with an explicit rime based phonics method.
- Distinguish the word recognition outcomes Ethiopian Grade 3 EFL students could make in reading novel words (reading non-instructed words), if taught basic reading skills with an explicit rime based phonics method.
- Identify the phonological awareness sub-skills that predict Ethiopian Grade 3 EFL students' word recognition development.

1.4 Hypotheses

This research project attempted to test the following hypotheses.

Ha0: There is no significant difference in students' phonological awareness outcomes at rhyme level between the control group (students taught basic reading skills not in explicit rime based phonics method) and the experimental group (students taught basic reading skills with an explicit rime based phonics method).

Ha1: There is significant difference in students' phonological awareness outcomes at rhyme level between the control group (students taught basic reading skills not in explicit rime based phonics method) and the experimental group (students taught basic reading skills with an explicit rime based phonics method).

Hb0: There is no significant difference in students' phonological awareness outcomes at rime level between the control group (students taught basic reading skills not in explicit rime based phonics method) and the experimental group (students taught basic reading skills with an explicit rime based phonics method).

Hb1: There is significant difference in students' phonological awareness outcomes at rime level between the control group (students taught basic reading skills not in explicit rime based phonics method) and the experimental group (students taught basic reading skills with an explicit rime based phonics method).

Hc0: There is no significant difference in students' phonological awareness outcomes at phoneme level (phonemic awareness) between the control group (students taught basic reading skills not in explicit rime based phonics method) and the experimental group (students taught basic reading skills with an explicit rime based phonics method).

Hc1: There is significant difference in students' phonological awareness outcomes at phoneme level (phonemic awareness) between the control group (students taught basic reading skills not in explicit rime based phonics method) and the experimental group (students taught basic reading skills with an explicit rime based phonics method).

Hd0: There is no significant difference in students' word recognition outcomes in reading learned words between the control group (students taught basic reading skills not in explicit rime based phonics method) and the experimental group (students taught basic reading skills with an explicit rime based phonics method).

Hd1: There is significant difference in students' word recognition outcomes in reading learned words between the control group (students taught basic reading skills not in explicit rime based phonics method) and the experimental group (students taught basic reading skills with an explicit rime based phonics method).

He0: There is no significant difference in students' word recognition outcomes in reading invented words between the control group (students taught basic reading skills not in explicit rime based phonics method) and the experimental group (students taught basic reading skills with an explicit rime based phonics method).

He1: There is significant difference in students' word recognition outcomes in reading invented words between the control group (students taught basic reading skills not in explicit rime based phonics method) and the experimental group (students taught basic reading skills with an explicit rime based phonics method).

Hf0: There is no significant difference in students' word recognition outcomes in reading novel or non-instructed words between the control group (students taught basic reading skills not in explicit rime based phonics method) and the experimental group (students taught basic reading skills with an explicit rime based phonics method).

Hf1: There is significant difference in students' word recognition outcomes in reading novel or non-instructed words between the control group (students taught basic reading skills not in explicit rime based phonics method) and the experimental group (students taught basic reading skills with an explicit rime based phonics method).

1.5 Conceptual Framework

According to the developmental model of literacy acquisition, the goal of early grade language instruction is helping children acquire and develop the early language and literacy skills that will eventually lead them to achieve the ultimate purpose of reading which is the comprehension of written material and expand opportunities to acquire knowledge through reading (Erhi et al., 2001). The effectiveness of an early grade reading instruction is therefore measured in terms of children's achievement in the basic skills of reading and comprehension (Elis et al., 2004; Goswami et al., 2003).

In order to provide a framework for designing an effective early grade reading intervention and for implementing and evaluating its effectiveness, it is worth examining and identifying the basic reading skills that can be easily measured and contribute to effective

reading achievement. It is also important to examine the factors influencing the acquisition and development of these skills and the ways in which these skills can best be learned, acquired and measured in the light of basic theoretical and pedagogical foundations.

To this effect, the following five areas of inquiry were developed from the literature, pulled together and applied to create the conceptual framework of this study: (a) word recognition or print knowledge (b) phonological awareness, particularly at the rhyme, onset-rime and phoneme levels and (c) orthographic knowledge and processing skills as important domains of knowledge that can be easily measured that contribute to reading achievement in English, (d) classroom instructional methods through which these skills are taught and learned as contexts that influence the acquisition and development of the three domains of knowledge.

First, word recognition, the ability to fluently and correctly recognize the pronunciation of printed words, is one of the two component skills required for effective comprehension (Han, 2005). Children's word recognition skills are measured by their ability to quickly and correctly recall the pronunciation of learned words (visual/sight recognition), to read nonsense or invented words using phonemic cues, and to read new or unfamiliar words using phonological and orthographic cues.

Second, extensive research on phonological processing has shown that rhyme is one of the earliest instances of phonological awareness, and that rhyme/rime and phonemic awareness are important predictors of reading success in children learning to read in orthographically inconsistent languages such as English (Adams, 1990; Walton et al., 2001; Holligan & Johnston, 1988). In addition, the ability to process letters and letter patterns such as graphemes, morphemes, onset-rime, syllable and words is critical to efficiency and fluency in the acquisition and development of word recognition ability (Adams, 1990; Foorman, 1996; Share & Stanovich, 1995).

Third, an explicit phonologically-based instruction, particularly rime-based phonics, which requires identification and analysis of the phonological/sound and orthographic/spelling structures of words, helps students understand letters and letter patterns of words (i.e., letters and letter clusters or rime units) and the sound/s (i.e., phonemes and rhymes) they represent. And this allows children to build their own understanding of the correspondences between spoken and written language, strengthen and refine phonological

and orthographic knowledge and processing skills, and develop a skill-based word recognition strategy (i.e., rime spelling unit + rhyme phonological unit = reading unknown words by analogy). The whole process has been shown in the diagram below.

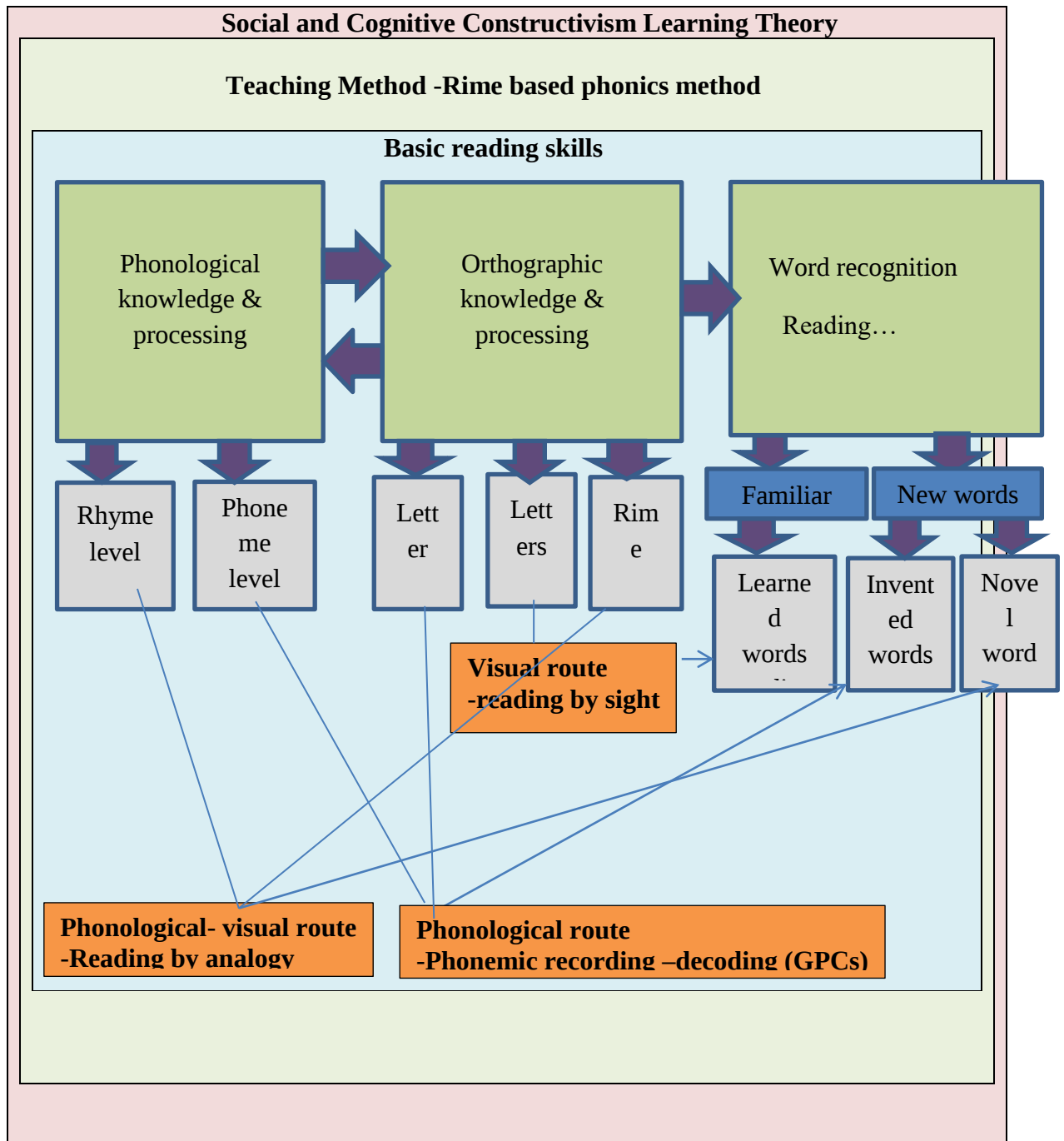


Figure 1: A diagram showing the conceptual framework of the study

1.6 Theoretical Framework

Learning to read is a complex process that requires the integration of linguistics, cognitive and social skills (Ehari et al., 2001). Due to this reason, the major theoretical perspective chosen to guide this study was the constructivism theory as described by both Piaget and Vygotsky. Vygotsky states that the use of social interaction in a supportive environment, scaffolding and the use of external mediators to help a child move from assisted learning to independent learning. Additionally, both Vygotsky and Piaget suggest that an interactive approach to learning, rather than memorization, helps children build their own understanding of the concepts and materials presented.

The written language is an invented system that graphically communicates spoken language with various types of symbols/codes such as letters, characters, or logos (Ellis et al., 2004; McGuinness, 2004, 2006; Lloyd & Wernham, 1992, 2009, 2012). Therefore, in order to learn to read, one has to first learn the codes and the associations of the codes with sounds and ways how to apply the association to decode/read words.

Because of this reason, in this study, basic reading or literacy skills are viewed as learned skills that can be acquired and developed as a result of an explicit and systematic instruction. The study further believes that the rate and success of the acquisition in children is influenced by different factors such as the competence of the person who lead the instruction, the method used and the type, quality and span of the linguistic, social and environmental support the children receive.

The following points are the foundational blocks of the constructivism theory as described by both Piaget and Vygotsky.

Social Interaction

Both Piaget and Vygotsky believed that individuals learn by actively building their own understanding, rather than passively accepting what is given to them. However, Piaget believed that this only happened in interaction with physical objects, while Vygotsky claimed that both social interaction and physical manipulation produced this understanding. For Vygotsky, cognitive construction is always socially mediated; it is influenced by present and past social interactions. The way that the teacher demonstrates, shows or explains things or ideas to her/his student influence what and how the student learns (Adams, 1998).

Vygotsky believed that students are more likely to gain a meta-understanding of a complex system when they engage in social interaction with adults and their peers (Vulentino et al, 2014). Word recognition has traditionally been developed around the memorization of orthographic images and pronunciations of words and rules with little or no interaction between student and teacher or between students regarding the phonological and orthographic concepts behind words. Whereas recently research has demonstrated that the letter-sound system or phonics can be understood by young children, and social reconstruction as a powerful tool for students to acquire these concepts (Mesmer & Griffith, 2005).

The Role of Content

Although personal construction of understanding in a social context is at the core of constructivist theory, it does not preclude learning without specific content. Elkonin (1971) distinguishes between play and a learning activity. “A learning activity is adult-guided activities around specific content that is formalized, structured, and culturally determined”. In applying this principle to the acquisition of basic reading or literacy skills, it is important that language instruction is not incidental, but that it deliberately conveys the logical structure and vocabulary of the discipline. Ehri et al. (2001) suggest that engaging students in planned and organized literacy lesson using structured instruction which progresses in a manner that considers the developmental stages of children is more effective than a lesson that focuses on incidental encounters with words.

Ferreiro (1992) points out that traditionally word recognition instruction either focuses on the teacher and method or on the maturity and readiness of the child. In most cases, instruction has not taken into account the nature of the body of knowledge. However, the modern approach to word recognition suggests that a focus must include not only consideration for the teacher and the student, but also for the content and the way it should be organized (Ehri et al., 2001). White (2005) conducted a study using (1) a planned sequence for teaching phonic elements including common spelling patterns and initial sounds, (2) teacher modeling of an analogy decoding strategy, and (3) analogy decoding practice with opportunities for students to transfer decoding skills to unfamiliar word. The aim of the study was to teach students to use known words to decode unknown words. The result showed the feasibility of improving word reading and comprehension outcomes through systematic and strategic analogy-based phonics

A Supportive Social Environment

Vygotsky suggested that, an approach which values the active participation of both the learner and the teacher enhances the construction of understanding. Vygotsky develops this idea of active participation by both learner and teacher, describing the kind of interaction which is helpful. The zone of proximal development, one of Vygotsky's most well-known ideas, is a framework that helps the teacher judge what kind of support is needed by the child. At the lower level of the zone is what the child knows and can do alone. It is what the learner can perform independently of any help. At the higher level of the zone is the maximum the child can perform with assistance from an adult or peer. This help may include hints, clues, rephrasing, demonstrating, or asking the child to restate what she or he understands. What a child does with some assistance today may be done alone tomorrow. Realizing that there are different levels of performance and that these levels are natural and acceptable can help the teacher monitor the type of assistance needed. The teacher interacts with the child to know how the child is thinking, what the child understands and what the child does not understand. If the child knows how to perform the task, then adequate practice is given so the child can become fluent in the skill or concept. If the child cannot perform the task even with assistance, then the teacher knows the task is not developmentally appropriate at that time.

Wood, Bruner and Ross (1976) suggest that scaffolding be provided within the zone of proximal development in order to increase the performance level of the child. The task is not changed nor made easier, but what the learner initially does is made easier with assistance. The teacher may perform the task with the child, giving as much assistance as needed to make the child successful at the task. Within that framework, the amount of assistance is varied as the child progresses (Goswami, 1998). In skill based word recognition lesson provided in a supportive social environment, children build words and talk about each part of the word, what sound is used, what letter is used, and why. Children are given all the assistance and time needed to form the concepts, skills and strategies needed for developing word recognition ability.

1.7 Significance of the Study

Because the study is experimental in nature, the results of this study will benefit a cross-section of English language teaching stakeholders. First of all, it is hoped that the results of the study will provide the global community in ELT with evidence-based information on

the effects of explicit rime-based phonics method on the development of basic reading or literacy skills in EFL students and fill the existing gap of knowledge in the area.

Second, the results of this study are also expected to provide a better understanding of the role of an explicit rime-based phonic intervention in reading development in EFL elementary school students in Ethiopia, which could potentially stimulate discussion, further research, and practice among teachers, educators, researchers, and scholars and decision-makers in this field. This will draw stakeholders' attention to considering the integration of phonology-based instruction, particularly the rime-based phonics method, into primary school English instruction and the teacher education curriculum in Ethiopia.

Finally, the outcome of the study will provide an empirically validated early grade reading intervention tool that can be used to improve EFL reading achievements of elementary school students in Ethiopia, and provide a teacher education framework for teacher development practices in both in- and pre-service programs.

1.8 Scope of the Study

The acquisition and development of basic literacy skills is influenced by various external and internal factors, including home support, conducive environmental conditions, exposure to printed and spoken forms of the target language, biological or genetic limitations such as dyslexia, and structured instructional contexts and the teaching methods used (Ehri et al., 2001).

This implies that it is impossible to cover the effects of all the possible factors and that the researcher has to select aspects of factors to concentrate on. Therefore, the scope of this experimental study has been confined to examining the effects of rime based phonics method on the phonological awareness and word recognition outcomes of Ethiopian primary school EFL students. Therefore, the concern of this study became measuring the effects of a particular teaching method only on the specific foundational reading skills that can be easily measured rather than both basic writing and reading skills of students.

Though there are four primary grades (Grades 1-4) in Ethiopia, this study was restricted to evaluating the effects of explicit rime based phonics method on the phonological awareness and word recognition outcomes of Grade Three students in two public primary schools, namely Ethiopia Tikdem and Haiq, in Hawaasa. Grade Three was chosen purposely as word study lesson starts at this grade level in Ethiopia.

1.9 Limitations of the Study

Because the scope of basic literacy skills is very broad, the researcher was forced to carve out a few key skills worth investigating, for example, evaluating the effects of the explicit rime-based phonics method on students' spelling outcomes. Another limitation of this study is that it did not generate confirmatory data from treated students on whether they maintained and transformed their word recognition skills to read words in connected sentences and paragraphs.

Due to the demanding nature of the study, as well as time and financial limitations, the study could not use more standard tests, large numbers of samples, and longer intervention periods that would have helped support more robust generalizations. Limited access to related literature in the local context has prompted the researcher to refer to available literature from international ELT culture. As teaching children by nature is a difficult and demanding task, students' attendance and teachers' competencies were also the other challenges of this study.

1.10 Operational Definition of Terms

Basic reading skills: refers to set of foundational or early literacy skills necessary to achieve the ultimate goal of reading -the comprehension of written materials.

Phoneme: refers to the smallest sound unit which distinguishing one word (or word element) from another, as the element /p/ in “tap,” which separates that word from “tab,” “tag,” and “tan.”

Grapheme: refers to the smallest functional unit of a writing system or letters of the English alphabet.

Rime: refers to a string of letters with in a syllable that formed with a vowel sound followed by and final consonants (e.g. *at* in *cat*). A rime has consistent spelling and sound representation across words.

Onset: refers to is the initial phonological unit in a syllable (e.g. *c* in *cat*).

Rhyme: refers to a word, has or end with a similar sound that corresponds to another. "beat rhymes with meet". Rhyming words have similar pronunciation but not necessarily the same spelling.

Familiar words: frequently used words.

Sight words: words that appear most frequently in students' reading and writing.

Invented words: refers to words which do not have meanings. These words are sometimes called pseudo.

Non-instructed words: refers to real words which are not taught or introduced to students.

Rime based phonics: refers to an early literacy skills teaching method which uses strings of letters –rime as functional teaching units than phonemes for teaching basic reading skills including phonological awareness, orthographic skills and decoding or word recognition.

Phonological awareness: refers to metalinguistic skills about the sound structures words in a given language. Phonological awareness allows one to attend to, discriminate, remember, and manipulate sounds at the sentence, word, syllable, rime and phoneme (sound) levels.

Rhyme awareness: refers to a level of phonological awareness indicates the ability to hear, recognize, identify and produce words end with similar sounds.

Rime awareness: refers to a level of phonological awareness indicates to the ability to segment words into onset and rime and blend onset and rime to form words.

Phonemic awareness: refers to a level of phonological awareness indicates to the ability to hear, identify and manipulate individual sounds in words.

Word recognition: refers to the ability to pronounce words quickly and rapidly.

CHAPTER TWO

AN OVERVIEW OF THE RESEARCH SETTING

2.1 Introduction

In this chapter of the study an attempt was made to show the context in which the study was conducted. In line with the purpose of the study, attention was given to the following points: a historical overview of the practice of early literacy (reading) instruction in Ethiopia, the orthographic nature of Ethiopian languages, the current language policy and the need for EFL reading proficiency in Ethiopia, the status of primary school students' EFL reading achievement in Ethiopia and quality improvements initiatives and outcome in early grade reading instruction in Ethiopia.

2.2 A Historical Overview of the Teaching of Basic Reading Skills in Ethiopia

The Ethiopian educational system, which began after the introduction of Christianity in the 4th century, was primarily religious and incorporated multiple learning strategies. According to Pankhurst (1968), one of the fundamental careers of student learning was early literacy, which focused primarily on reading skills. He further explained that the reading lesson was the result of combining the following phases: letter identification, reading the various religious texts, and rereading the Psalm of David.

From this historical information, one can understand that reading ability could be achieved through a long process of, for example, asking the child to name the letters aloud. In general, through repetitions lasting several days, a child could memorize the entire set of letters and then read a text. The traditional school system required students to master Geez letters by drilling. Successful reading at that time consisted of two interrelated factors: oral and high levels of memorization. Also, early literacy emphasized at reading skill was developed from the traditional Koranic school based on different levels. The MoI (1973) states that Medrassa or Kuranic schools where literacy, especially reading, was taught to students. Literacy skills of reading basically started in the traditional school of Christianity and Islam. These religions facilitated the foundation for the modern education of Ethiopia. Reading as an important skill had taken root in the Ethiopian society for many generations.

After the introduction of modern education in Ethiopia, in the first decade of the 20th century, foreign languages began to take an important place as a language of instruction. According to MOI (1973), French, Arabic, Italian and English were taught in the schools. Until the Italian invasion of Ethiopia, the French language served as the language of

instruction in both primary and secondary schools. During the post-independence period, English emerged as a foreign language, serving as the language of instruction in the Ethiopian educational system. Pankhurst (1968) elaborates that the elementary curriculum of Ethiopia (1947-48) allowed English to serve as a medium of instruction from the third grade; since this language had been replaced by Amharic as the language of instruction in elementary school in 1963, English was also taught as a subject from the third grade and as a language of instruction from the seventh grade.

During the early periods of the Ethiopian modern education, language teaching was highly emphasized (Pankhurst, 1968). Generally English literacy (focusing on reading) was given priority as a result of which students were taught the names of capital letters, to spell and read words during the early grades. Above all, students were required to master basic words. Achieving the ability of reading was one of the main goals of the English curriculum of elementary grades that was declared in 1967. The curriculum hence required teachers to teach efficient English reading.

Pankhurst (1968) explains that teaching reading had been accompanied by real objects and pictures, as well as strategies that include “look & say”, “retelling stories” aimed at helping students recognize words and sentences respectively.

To update information on how students actually learn to read English, in January 1977 questionnaires were sent to 70 persons in Addis Ababa who had learned English. English instruction was likely to begin with the following sequence: 1) Memorize the alphabet. 2) Memorize the sounds of the letters. 3) Practice oral sounding of letters from a chart as the teacher points to them. 4) Memorize whole words from lists of words copied from the chalkboard. 5) Memorize complete sentences from the chalkboard. Thirty-eight respondents reported that they memorized paragraphs and were trained to repeat the paragraphs orally and also to write them from memory. Twenty-three said that conversational English was an important part of their instructional program. There were few, if any, differences reported for the method of instruction regardless of the respondents' ages, which spanned 37 years (Dart & Starr, 1978).

2.3 The Current Language Policy and the Need for EFL Reading Proficiency in Ethiopia

Since the introduction of modern education in Ethiopia during the early 20th century/in 1908, English has been serving as a language of instruction at different levels of the

country's education system and being taught as a school subject. The rationale and importance/justification for using English within the Ethiopian education system has been indicated in various national policy and strategy documents, including, among others, the FDRE Education and Training Policy (MoE, 1994), The New Education Roadmap (MoE, 2020), Curriculum Framework for Ethiopian Education (MoE, 2009), the Education Sector Development Program I-IV (ESDP, 2003-2015), and the General Education Quality Improvement Packages (GEQIP I-III).

While the 1994 policy states that “cognizant of the pedagogical advantage of the child in learning in mother tongue (MT) and rights of nationalities to promote the use of their languages, primary education will be given in nationality languages...” (MOE, 1994, p. 23), the policy made clear that “English will be taught as a subject starting from Grade 1” and “will be the medium of instruction for secondary and higher education” (MoE, 1994, p. 24). Indeed in the new education roadmap, the government defines one of the main learning goals of the country as “multilingual proficiency: every learner will be proficient in the mother tongue, the national communication official language(s), interregional language(s), and English as an international language of communication” (MoE, 2020, p. 34). As can be gleaned from these and similar other documents, English will continue to own an influential role in Ethiopian education system.

The Ethiopian General Education (KG-12) Curriculum document states that since the teaching and learning of all school subjects in Ethiopian secondary schools is given in English, “...the focus of English language instruction is on developing students’ subject survival skills, confidence and learning strategies” (MoE, 2009, p. 17). The document further underscores that improving children’s reading skill at an early stage contributes significantly in increasing children’s learning of content area subjects. Therefore primary school children in Ethiopia are required to develop some level of EFL reading proficiency that prepare them for the next level of education where English is used as a medium of instruction to learn other subjects.

Because of the growing role of English in Ethiopia, many parents today prefer to enroll their children in English-medium private schools, particularly in relatively middle- and high-income urban areas. However, the only way for low-income parents to give their children an education is through government-sponsored public schools. Most teachers in these schools are unqualified or semi-qualified and use poor teaching methods to teach

English reading skills (see: Kim et al., 2021; Almaz, 2015; Belilew, 2016 ; AIR, 2012, 2016; MoE, 2017; Hugh, 2007; Fekede & Hailu, 2018; NOE, 2000, 2004, 2008, 2016).

Ethiopian languages use two types of orthographic systems. Languages from the Semitic family (e.g. Amharic, Tigrigna, Hareri) use the Ge'ez alphabet, an alpha-syllabic script in which a single symbol called fidel regularly represents a syllable (CV unit). On the other hand, most languages of the Cushitic (e.g. Affann Oromo, Sidamuu Affoo) and Omotic (e.g. Woalitattoo, Kefii Noonoo) families use the phoneme-based Latin script (Yri, 2004; Piper & Van, 2016). In most Ethiopian languages, a letter/fiddle consistently corresponds to a specific sound in phoneme-based Latin scripts and to a syllable (CV unit) in the alpha-syllabic Ge'ez script. Because of this, Ethiopian children can read new words in their L1 using the word's phonological information (Piper & Van, 2016). But that is not the case in English. English has a deep spelling system where the correspondence between written and spoken units is not always consistent. Therefore, children learning to read in English in Ethiopia are learning to read in a language that is orthographically different from their first language (L1), may not have been previously familiar with and lack social and environmental support systems. These and other related factors have negatively influenced the English reading performances of Ethiopian children and the following section briefly discuss the issue.

2.4 The Status of Primary School Students' EFL Reading Achievement in Ethiopia

Ethiopia is now seeing a remarkable improvement in primary school enrollment and is on track to achieve the goal of universal primary education (MoE, 2017). However, Ethiopian children, especially children from low socio-economic backgrounds and children from uneducated parents, face numerous problems in primary education. Today these children learn in substandard schools with unqualified and semi-qualified teachers using poor teaching methods (Kim et al., 2021; Beilewe, 2016; Hugh, 2007; Fekede & Hailu, 2018; MoE- ESDP, I-IV 2003-2015). Because of these and other related factors, several assessments have reported that Ethiopian children's reading performance falls below the standards set by the Ministry of Education for each grade level and they are poorly prepared for the next level of education where English is used as the language of instruction (USAID-AIR, 2012, 2016; NOE, 2000, 2004, 2008, 2016).

As briefly discussed in the problem statement section of this paper, one nationwide study that revealed the poor reading performances of children in Ethiopia is the American

Institute for Research's (AIR), National Early Grade Reading Assessment (EGRA). The result of the assessment disclosed that almost two-thirds of the children examined were failed to exhibit the necessary knowledge and skills for the minimum learning competencies specified in the curriculum for each grade level. The result further revealed that a significant number of 2nd and 3rd graders could not read a single word of English (USAID-AIR, 2012, 2016).

Scholars like Akamatsu (2005); Han (2015); Koda (2007); Odo (2021); Jazmin (2021), argue that the type of instruction children receive, their EF experiences, input and exposure they have, and the orthographic nature and depth of their mother tongue are among the factors affecting the effectiveness of word recognition in second or foreign language. Therefore, scholars recommend that effective ESL/EFL literacy instruction in the early grades should carefully consider these factors.

Recent research findings (see: Almaz, 2015; Belilew, 2016, Dereje, 2012; Endalkachew 2017), have indicated that most teachers in Ethiopia, particularly in public schools; tend to teach basic reading skills through memorization. They often begin by teaching the names of the letters rather than teaching the sound each letter represents. Teachers then encourage children to learn common words or phrases as a whole, store the words in their memories, and recognize them by sight. The teachers usually point to the words written on the board, which are then sung by the children. This method prevents children from reading unfamiliar words so they can only read words they are familiar with. In addition, the method can help children who benefit from nurturing conditions and support systems, including home reading, role models and encouragement from others, and rich oral and written communication experiences (Ehri, 2005; Ryder et al., 2007). However, according to Fekede and Hailu (2018); Hugh et al. (2007), most children in Ethiopia, especially those studying in public schools, often have no contact with English before school since their parents most likely cannot speak, read and write English and they live in an environment where they have limited access to books and other written materials.

2.5 Early Grade Reading Improvement Initiatives in Ethiopia

It has been more than twenty years since Ethiopia launched and implemented the Education and Training Policy. Since then the country has made remarkable progress in terms of access, equity and relevance. Vigorous efforts also have been made, and continue to be made, to improve the quality of education. To continue this progress, the Ministry of

Education has developed a framework for Curriculum Development. The framework covers all pre-primary, primary, general secondary and preparatory subjects and grades. It aims to reinforce the basic tenets and principles outlined in the Education and Training Policy, and provides guidance on the preparation of all subsequent documents and curriculum materials – including the minimum learning competences, syllabi, student textbook and teachers' guides. In line with the purposes of this study, the following sub sections deal with the Minimum Learning Competencies for EFL reading in primary grades (1-4) and the contents, organization and presentations of word study and vocabulary activities in Grade Three English syllabi and text books.

2.5.1 Minimum Learning Competencies for EFL Reading in Grades 1-4

According to the MLC document (MoE, 2009), children in Grade One are expected to develop their oral skills and the first two components of early reading skills, i.e., print concept and alphabetic principle. In Grade Two, students should be able to read and understand/use a total of about 180 words and copy familiar words, phrases and short sentences from a textbook, chalkboard or any other appropriate printed material. In Grade Three, students are expected to read, understand/use and manipulate 300 familiar words and listen, identify and write down familiar words and phrases spoken by the teacher (dictation). Whereas, in Grade Four students should be able to read 400 familiar words on different topics and read and write short sentences about personal details, animals, environment etc. (MoE, 2008).

2.5.2 The Newly Revised Ethiopian National English Language Syllabuses

The syllabuses and textbooks were produced with financial and technical support of USAID in collaboration with the Ministry of Education, Regional States Education Bureaus and READ TA Project. In contrast to previous syllabi for teaching reading in English in Ethiopian, which were whole-word oriented and entirely non phonics, the recent Grade Three syllabi, developed under the directives of the Curriculum Framework, taking into account the findings and recommendations of AIR-EGRA, suggests, that children should be taught basic reading skills through a phonic approach, mainly using a synthetic phonic method (MoE, 2017).

2.5.3 An overview of Word Study and Vocabulary Lessons in Grade 3 English Textbooks (Book 1 & 2)

In this research project, the researcher tried to look through the Grade Three students' textbooks and teacher's guides in order to have clear understanding about the word study and vocabulary exercises at that grade level. To this effect, the nature of the word study activities was observed. This aimed at looking for the purposes of word study activities and the ways of presentation of contents whether the activities follow a systematic and explicit presentation of the different orthographic and phonological units such as phonemes, rimes/rhymes and syllable. The instructions of the word study activities in the textbooks were given particular attention. This was done to see if the instructions given invite students to learn the pronunciation of the given word by analyzing and sequentially blending the orthographic and phonological units of the word.

The vocabulary exercises were also examined. This was needed to see whether or not the exercises are presented systematically (for example in word family) to provide students phonemic and orthographic cues such as rime analogy which help them guess or decode the pronunciation of new words themselves.

The newly revised Grade Three English textbook is divided into two books. Each book has five units and each unit is again divided into eight sections: Listening, Speaking, Word Study, Reading Comprehension, Vocabulary, Reading Fluency, Grammar and Writing. The word study section deals mainly with consonant digraphs, blends and word formation with some phoneme segmentation activities. The activities are mostly lead by teacher modeling and students' repetition. The Vocabulary section presents activities on thematic words and sight words to help students increase their vocabulary. Most of the activities are pronunciation practice and meaning search. Yet few activities require students to construct sentences with the newly learnt words.

CHAPTER THREE

REVIEW OF RELATED LITERATURE

3.1 Introduction

This chapter consists of three main sections. In the first section, the researcher sought to explore the different perspectives in defining reading and the casual relationship of reading ability and academic, social, and political life of individuals, communities, and nations at large. In the second part, an attempt was first made to review related literature on the different theoretical assumptions and pedagogical bases for the acquisition and development of basic reading skills and to compare the two main approaches to teaching basic reading skills. By paying more attention to the explicit phonic approach, the researcher reviewed the different methods that have evolved from this approach in order to reveal the theoretical and pedagogical knowledge bases of this study. Next, the researcher surfs the literature to review related empirical work and discussed the key findings of some of the works.

3.2 What is Early Reading?

The written language was developed to graphically communicate spoken language, and most writing systems do this systematically using various types of symbols/codes such as letters, characters, or logos invented to fit the phonological structure of the specific language for which they are written (Ellis et al., 2004; McGuinness, 2004, 2006; Lloyd & Wernham, 1992, 2009, 2012). Because of this reason, reading is defined as " the conversion of written forms into linguistic messages" (Perfetti, et al., 2000, p.127). Tan (2007) defined reading as " a process of decoding symbols: looking at words and understanding what has been written" (p.6). This definition of reading implies that before we understand a reading text, we must connect the written codes to our spoken knowledge and recognize the pronunciation of the words.

Pressley (2000) states reading as a hierarchy of skills, from processing of individual letters and their associated sounds to word recognition to text processing competencies. According to this definition reading begins at the primary level where children are made to acquaint themselves with letters and combination of letters to form words.

Reading could also be seen beyond this level. Snow, Burns, and Griffin contend that "Reading is a complex developmental challenge that we know to be intertwined with many other developmental accomplishments: attention, memory, language, and motivation, for

example. Reading is not only a cognitive psycholinguistic activity but also a social activity” (1998, p. 15).

Nowadays our understanding of the act of reading has been broadened to include the visual and thinking skills necessary to acquire information from digital video, handheld data assistants, computers, or other technological learning environments (Hobbs, 2005). Add to this broadened definition of reading the idea that the visual and thinking skills needed for acquiring information today are situated in and shaped by increasingly diverse social or cultural settings found in schools, homes, communities, or ethnic groups (Tracey & Morrow, 2006).

As a result, the term reading is currently interpreted far more broadly and encompasses the learning of a complex set of skills and knowledge that allows individuals to understand visual and print-based information. The goal of reading instruction, then, is to empower readers to learn, grow, and participate in a vibrant and quickly changing information-based world.

3.3 The Importance of Early Reading Instruction

The ability to read can affect the academic, social, economic and political life of citizens and hamper the overall development of a given nation as a whole (UNESCO, 2013). Children who struggle with reading and spelling difficulties in third or fourth grade are at risk of developing a pattern of reading failure and having reading difficulties throughout adult life (Torgesen, Al Otaiba, & Grek, 2005; Wren, 2000; Holmes, 2009; Hines, 2009; Ouellette & Beers, 2010). This scenario is known in reading as the Matthew Effect. Applied to reading, the Matthew effect refers to the idea that children who had poor reading skills in their early school years fall further behind over time because they read more slowly and have less exposure to and access for additional learning opportunities.

UNESCO (2013) states that the ability to read is not only a tool on which the learning of other subjects is based, but also a right that contributes to the fulfillment of the universal human right, the full fulfillment of the person and therefore the possibility of enjoying and exercising all other human rights. In addition, UNESCO emphasizes that building literate environments and societies contributes to the goals of eradicating poverty, reducing child mortality, curbing population growth, realizing gender equality and ensuring sustainable development, peace and democracy in a given country.

3.4 Basic/Early Grade Reading knowledge and Skills

As children begin the process of learning to read, they need to acquire a set of skills and strategies that will help them reach the ultimate goal associated with learning to read: comprehending what they read whether in traditional print forms or more technology-based formats. On the way to the goal of reading comprehension-that is, understanding the author's message-children must acquire a set of early reading skills or tools that include the following (Burns, Griffin, & Snow, 1999).

3.4.1 Print Concept

Having a print concept means knowing about the forms and the functions of print; this is a child's earliest introduction to literacy (Gunn, Simmons, & Kameenui, 1998). Print Concepts is an umbrella term that covers many concepts about printed text. Students need to know these concepts in order to learn to read. Some of the concepts relate to the features of written language, while others relate to directionality, the way that written text is organized. Knowledge of print concepts is fundamental to beginning reading (Honig et al., 2000).

3.4.2 Phonological Awareness

Phonological awareness is a broad term that describes the awareness of sound structure of the language. Research across many countries indicates that children with weak phonological awareness fail to learn to read (Cardoso-Martins, 1995; Cossu, Shankweiler, Liberman, Tola, & Katz, 1998; Elkonin, 1973; Lundberg, Olofsson & Wall, 1980).

Phonological awareness is the ability to hear, distinguish, produce, and work with the sounds in words. It is an oral skill that children need to master in order to read.

Phonological awareness can be broken down into four developmental levels: word, syllable, onset- rime and phoneme. As learners progress through the levels, they learn to identify words that rhyme, segmenting sentences by clapping for each word, identify syllable, and identify onsets and rimes. They also identify, blend, segment and manipulate phonemes. According to Blachman et al. (2000), phonological awareness instruction builds a strong foundation for the development of phonemic awareness (awareness of sounds at the individual phoneme level). In other words, phonemic awareness is the highest level of phonological awareness.

When developing phonological awareness skills, children first notice that some words end with the same sounds or syllable; these words rhyme. Students then become aware that a sentence is made up of words. They then learn to identify syllables, and to blend and segment syllables. At the more complex level, students begin to hear and identify sounds in words. Next, they learn to blend, segment, and manipulate these sounds to read words and to make new words.

3.4.3 Graphophonemic Awareness

Graphophonemic Awareness is the ability to match up graphemes (symbols, letters, or letter combinations) to phonemes; and to syllables. A grapheme is the smallest part of written language that represents a phoneme in the spelling of a word. Oral language is represented in written language by using graphemes. Graphophonemic awareness is important because it enables students to decode (sound out) new words. This will help them become independent readers. It also enables students to segment the sounds in words. This supports spelling and writing, because students can link the sounds they hear in a word to the correct letters (Honig, Diamond, & Glutlohn, 2006).

Graphophonemic awareness can be developed by teaching individual letters and their sounds, as well as giving students practice blending (putting together) and segmenting (taking apart) the letters, syllables, or part of words.

3.4.3.1 Graphophonemic Awareness Continuum

In the course of developing Graphophonemic Awareness there are trends/stages through which children progress in developing reading mastery. This general progression ranges from print awareness to identification of meaningful word parts (morphemes) (Honig, Diamond, & Glutlohn, 2006).

3.4.3.1.1 Letter Identification

Knowing the letters, and their related sound(s), is part of beginning literacy. This is called alphabet knowledge. Alphabet knowledge enables beginning readers to figure out how printed words correspond to spoken words (Honig et al., 2000). Without this understanding it will be hard for a child to learn to read. Languages with alphabetic scripts are made up of letters. Some letters are called consonants. These letters almost always stand for a single sound and that sound is almost always the same. Other letters are called vowels. Vowels can change the sound of the consonants.

In some languages, letters can be written in different forms. When a word is the name of a person the word begins with the letter in upper case form. Most often, letters are written in their lower case form. According to Honig et al. (2000), letter knowledge includes letter names, letter shapes, letter sounds, and letter formation (handwriting).

3.4.3.1.2 Letter (Grapheme)-Sound Correspondence

As children see print and hear words in everyday language, they begin to associate these words with letters and sounds. Each letter stands for one or more sounds. They may practice this by paying attention to the sounds of their language like: ma, ma, ma; da, da, da, etc. In turn, these experiences provide support when the child enters school and begins instruction in phonics. When they see the letter and hear the sound(s), they can remember hearing and saying that sound as a child (Gluthlon, et al., 2000).

3.4.3.1.3 Decoding

When attempting to develop the basic skills (reading and writing) in a language, decoding is an important skill to develop. Decoding refers to the ability to relate symbols in print to the corresponding sounds. Thus when one develops decoding skills, symbols or codes should not be hard to understand. When combined, they (symbols and their sounds) should be words that are meaningful. In other words, decoding skills can be a tool to help a child become a good reader. Students can learn to easily recognize the symbols or parts of words (Goswami, 1998).

According to Gluthlon, et al. (2000), beginning readers, particularly children at early grade levels use phonic skills to master how to say new words. Moreover, in the course of developing reading skills, learners might use some other ‘word attack’ skills. Some of these skills may include the recognition of irregular words (words that cannot be decoded), and word parts (syllables, affixes, basic words, etc.). Also in developing decoding skills, learners may have challenges. For instance, lack of knowing how to segment and blend sounds in words. Lack of instruction and practice in identifying how consonant and vowel sounds are represented by symbols/letters in words can also make reading hard. Also, weakness in using the knowledge of sound-letter representation when decoding or sounding out new words can be another challenge. By and large, decoding is an important graphophonemic skill to be developed for it plays a basic role in reading and understanding new words. In turn, it is also helpful to present decodable stories or texts to beginners of

reading. In decodable text and stories, most of the words can be decoded with sounds that have been taught. There maybe a few words that can't be decoded and are taught by sight.

3.4.3.1.4 Encoding (Spelling/Writing)

Spelling can be defined as a code that uses letter sequences and the associated sounds to represent specific words and their meanings. Good spellers/writers have a distinct academic advantage. Spelling skills are beneficial when writing essays and reports or taking tests. Being a good speller can also help in practical situations, like completing a college or a job application (Honig, Diamond, & Glutlohn, 2006).

Children need to know how to spell words in order to be able to effectively communicate when writing. When students can spell with automaticity, they can use their cognitive energy on expressing their ideas and improve the quality of what is being written. Over 30 years of research indicates that a child goes through developmental phases when learning to spell a child's cognitive development plays an important role in this process. If a child is aware that words are made of syllables represented by letters, it will be easier to spell words (Honig, Diamond, & Glutlohn, 2006). At the more advanced levels of spelling, students use their knowledge of meaningful word parts (morphemes) and the sound/letter, or syllable patterns.

3. 5 Theories of Reading and Phonological Awareness

According to Ehri (1995, 1998), there are at least four ways to read words, contextual guessing, letter-sound decoding, analogy, and sight. Contextual guessing consists of making use of context or meaning based cues in the text or pictures to predict the word. Letter- sound decoding involves phonologically sounding out letters and blending the sounds to form the word. Reading words by analogy consists of recalling information about sight words and applying it to unknown words (e.g. using knowledge of the word night to read the word flight). Sight word reading involves retrieving lexical information about the words from memory. Fluent readers are primarily sight word readers. Unfamiliar words that have not been stored in memory, and therefore are not sight words, are read by decoding, analogy, or contextual guessing. Ehri (1992; 1995; 2005) proposed a cognitive developmental model of reading acquisition containing three distinct, but overlapping, phases.

Because each language has specific orthographic characteristics, children across languages learn to read at different speeds and using different strategies. The following section reviews hypotheses on learning to read across different orthographies.

3.5.1 The Orthographic Depth Hypothesis

This hypothesis suggested that shallow orthographies are easier to read through a phonological route, whereas opaque orthographies are easier to read using a visual route (Kartz & Frost, 1992).

This hypothesis has two branches, which are referred to as the strong and the weak Orthographic Depth Hypotheses. The strong version posits that the phonological route is sufficient in reading both transparent or shallow orthographies and that the sight-reading technique is sufficient in reading deep orthographies. Kartz and Frost (1992) supported the weak version of the hypothesis, which posits that the word reading process in transparent or opaque languages, to some extent, still allows for the possibility of other routes being involved. For example, it is possible to have stored lexical phonology in reading transparent language rather than just pre-lexical letter-phonology correspondences.

Goswami et al. (2003) examined reading strategies used by English- and German reading children in sounding out non-words. There were two types of non-word reading tasks giving to 7-, 8-, and 9-year-old German-speaking children: large and small unit word reading tasks. The large unit words were orthographic neighbors of real words. For example, for English, the words were dake, bicket, and bactory (from cake, ticket, and factory). The small unit words were non-words that were not the orthographic neighbor of the real words. For example, if the real word was fake, the non-word was daik rather than dake. These words were then given under two conditions. The first of these conditions was the blocked condition, where the large and small unit words were given separately in a different list. In the second condition, the large and small-unit non-words were given in a mixed condition. The German readers were expected to employ a grapheme-sound strategy relying on the sub-lexical route and would treat the non-words the same (sub-lexically) under both conditions. The English readers were expected to employ different reading strategies to read the non-words under different conditions. The results found that, unlike German readers, who relied only on small-size units, English readers switched back and forth to and from lexical and sub-lexical strategies (Liow and Poon, 1998) when reading

under the mixed condition. Goswami et al. (2003) concluded that the flexibility of reading strategies was influenced by the nature of the orthography.

One of the studies that support this Orthographic Depth hypothesis is Ellis et al. (2004). This study expanded on the number of languages studies to include Greek, Albanian, Kanji, and Hiragana, alongside English. This study investigated orthographic readers to determine how children age 6-15 years old acquired the skill to read aloud based on the orthographic level of opaqueness. Measuring for the response accuracy, latency, and error types, this study found that the transparent orthographies, Hiragana, Greek, and Albanian, were the easiest to read in terms of those measured criteria, compared to the opaque ones, English and Kanji. This study confirmed that that the more opaque the language, the more time a learner needs to acquire the skills to read in that language.

In brief, this hypothesis asserts that the level of orthographic transparency determines the rapidity of reading acquisition, with shallow orthographies as the most rapidly learnt. However, orthographic depth is complex. English, for instance, is categorized as deep, but the process of its word recognition is highly phonologically mediated. Although this theory explains the correlation between the rapidity of early reading acquisition and the depth of orthography in many languages (Ellis et al., 2004), it fails to explain reading acquisition in English orthography.

3.5.2 Psycholinguistic Grain Size Theory

The theory emphasizes three important issues in mapping the word reading acquisition process, namely availability, consistency, and granularity. Availability refers to whether all phonological information held by symbols/letters is available prior to learning, which is indicated by a person's spoken language skills. Letter knowledge or the knowledge of the sounds of all letters in a writing system determines learning success. The second issue is the consistency, which refers to the level of reliability of the relationship between the letters and the sounds.

Orthography is consistent when it has a high number of one-to-one relationships between its letters and the sounds that they represent. The higher the consistency the more easily that the writing system is mastered. The final issue is granularity or linguistic unit size (whether morpheme, syllable, or phoneme) used to map the language. Granularity also determines the level of difficulty that a writing system poses to a child learning to read.

Chinese uses morphemes as the smallest linguistic information to map the language in the writing system, which means that the learner must acquire/know all morphemes in Chinese to be able to fully master reading. As the number of sounds are not as many as the number of morphemes or syllables in a language, learning to read alphabetic languages takes less time than learning to read languages mapped in larger phonological units, such as syllables or words (Ziegler & Goswami, 2005).

The Psycholinguistic Grain Size Theory explains the relationship between the levels of phonological awareness necessary to use in the writing system (Ziegler & Goswami, 2005). According to Branum-Martin et al. (2012), Psycholinguistic Grain Size Theory may explain developmental progression in English reading acquisition (Anthony & Lonigan, 2004). If the Orthographic Depth Hypothesis covers solely consistency, which is related to spelling and pronunciation, the Psycholinguistic Grain Size Theory covers other factors, such as spoken language (availability) and speed of acquisition.

Transparent alphabetic languages use the smallest grain size, and so learning to read in those languages takes a relatively shorter time. English orthography takes a longer time to acquire because readers rely on both small (phoneme) and large (rhyme) grain sizes to read the orthography because of phoneme-letter inconsistencies (Savage & Carless, 2005).

Moreover, the Psycholinguistic Grain Size Theory can also explain cross-language reading acquisition through the use of phonological awareness transfers (Branum-Martin et al., 2012). In meta-analysis of studies of phonological awareness and word reading transfers from a number of languages to English, studies that used composite manipulations may have greater cross-language correlations than syllable level tasks, implying that tasks involving multiple grain sizes may involve processes that are more closely related across languages.

3.5.3 The Phonological Linkage Hypothesis

This theory emphasizes the importance of combining both explicit phonology teaching and reading for maximum success in acquiring literacy. Hatcher, Hulme, and Ellis (1994) argued that spending an equivalent amount of time concentrating on either component in isolation is less effective. Vellutino et al. (2004) supported this theory, stating that other than biological factors, poor readers are impaired because of inadequate instruction.

A meta-analysis by the National Reading Panel reported that phonemic awareness instruction helps children learn to read in English (Ehri et al., 2001). Explicit phoneme training combined with phonic reading instruction was also reported to help children avoid reading failure, which was determined by dividing a child's reading age test scores by their chronological age (Hatcher, Hulme, & Snowling, 2004).

3.5.4 Dual-route Model of Word Recognition

One of the early models for describing how children recognize words in print is referred to as the dual-route model of word recognition. This model proposes that readers access the meaning of a printed word using either a phonological or a visual route (Morton & Patterson, 1980). The phonological route involves segmenting a printed word into letters or groups of letters, which are then linked to corresponding phonemes (i.e., sounds). These phonemes are then assembled (i.e., phonological recoding) to form a phonological representation of the printed word to allow access to word meaning.

To use the phonological route, the reader must have an understanding of how graphemes (i.e., letters) are represented by phonemes, as well as the ability to segment and blend individual phonemes (e.g., PA) to construct accurate phonological representations. A phonics approach to reading instruction in which letter-sound relationships are prioritized supports the phonological route to word recognition (Invernizzi & Hayes, 2011).

More recently, with the understanding of the role of PA in learning to read, best practice has shifted towards teaching children how to segment and blend phonemes and how to apply letter-sound correspondences in the word-recognition process (Johnson & Watson, 2005; Rose, 2006). The phonological route proposed in this model does not allow for the fact that many English words are phonetically irregular (i.e., do not confirm to simple phoneme-grapheme matching) and, as such, an alternative visual route that is independent from the phonological route is required.

The visual route proposes that the reader makes connections between a printed word's shape and orthographic representation to access word meaning. Recognizing words using the visual route relies on the readers' previous experiences seeing the word and does not involve the use of phonological skills, such as PA and letter-sound knowledge (Coltheart, 1978; Coltheart, Curtis, Atkins, & Haller, 1993). Sight word teaching strategies in which

children are presented with flash cards containing printed words is an example of an approach that supports the visual route.

According to the dual-route model, readers use both phonological and visual routes interchangeably, depending on the type of material that is being read (Invernizzi & Hayes, 2011). For example, initially the phonological route is used to access the meaning of unfamiliar and low frequency words, but as words become increasingly familiar, they are accessed more directly using the visual route. This highlights the importance of teaching children how to use phonological information to decode words that are, in the first instance, unfamiliar, and lays a foundation for more rapid access to word meaning as skilled reading develops.

3.5.5 Modified dual-route Model of Word Recognition

Ehri (1992) proposed a modified dual-route model to acknowledge that phonological skills are also required when readers use the visual route to recognize printed words. Ehri (1992) argued that irregular words are only partially irregular, and therefore phonological knowledge can be used to decode parts of irregular words that are regular. For example, in the word ‘island’ the ‘land’ component of the word is regular, the ‘s’ is not pronounced, and the ‘i’ is produced as the letter-name as opposed to the letter-sound.

In the modified dual route model, the phonological route is preserved but the visual route is modified to become the visual-phonological route. The visual-phonological route uses phonological skills to decode parts of irregular words that are regular, while visual cues (e.g., word shape) are used to recognize parts of the word that are irregular. That is, once a printed word is processed from the phonological and visual routes, information is combined to access word meaning. The visual-phonological route reduces memory demands because readers do not have to recall all irregular words by orthographic shape alone. Rather, a definitive number of phoneme–grapheme relationships can be used to support this process. In essence, children first learn to read a word via the phonological route, using knowledge of phoneme–grapheme correspondences and PA. With increased exposure, children begin to recognize printed words more quickly by combining visual and phonological information. This model highlights the importance of phonological information for recognizing both regular and irregular words in print.

Researchers have identified several limitations to the dual-route model of word recognition. First, this theory evolved from studies of adults with sudden brain injury resulting in an acquired reading disability rather than from developmental studies involving young struggling readers (Invernizzi & Hayes, 2011). Second, investigations show that children who have trouble with word recognition have deficits in both phonological and orthographic routes, as opposed to an either-or framework as proposed by the dual-route model. Third, Zibell and Everatt (2002) demonstrated that adults with primary difficulties in the phonological or orthographic route did not perform significantly different to each other on a number of phonological processing tasks.

Finally, researchers argue that phonological and orthographic information work in unison to support word recognition. Therefore, they cannot be viewed as two separate routes to learning to read (Vellutino, Scanlon, & Chen, 1995). This has led researchers to consider multiple connections between skill areas, rather than separate processes, as a pathway to skilled word recognition.

3.5.6 Connectionist Model of Word Recognition

A connectionist or parallel-distributed processing model of word recognition proposes that readers integrate phonological, orthographic and semantic knowledge to access word meaning (Invernizzi & Hayes, 2011).

This model suggests that phonological knowledge is necessary to enable beginning readers to decode new words, and that competent reading requires the integration of phonological, orthographic and semantic information. In contrast to the dual-route model of word recognition, a connectionist model considers the interplay of several skills required in learning to read printed words, as opposed to separate processing routes (Seidenberg, 1995). Teachers need to know about the various layers of phonological, orthographic and semantic knowledge that contribute to skilled word recognition to identify which areas are in deficit. Such knowledge is critical in informing instructional strategies that can be implemented under the guidance of developmental models of word recognition.

3.5.7 Developmental Models of Word Recognition

According to developmental models, the ability to recognize printed words develops over time, in unison with increased awareness of the relationships between oral and written language (Ehri, 1991; Frith, 1985). Therefore, a deep understanding of the developmental

stages or phases through which children pass on the way to skilled word recognition is essential for assessment and instruction in the classroom. Different cognitive skills and strategies predominate at each stage of development. However, strategies from previous or emerging stages may also be present (Treiman & Bourassa, 2000).

Stage models of word recognition, such as those proposed by Ehri (1991), involve three key stages: logographic, alphabetic and orthographic. During the logographic stage, children recognize whole words based on the shape of that word—just as they would recognize pictures. Phonological or phoneme–grapheme knowledge is not present. During the alphabetic stage, children learn to use PA knowledge and letter-sound correspondences to decode printed words (Ehri, 1985). A key feature of this stage is the ability to recognize words based on phonological and letter-sound knowledge.

In Ehri's view (1998), children need to learn increasingly sophisticated strategies to recognize words, including segmenting words into individual phonemes, understanding letter-sound correspondences and then applying both segmentation and letter-sound skills to the decoding of printed words. During the orthographic stage, experience and exposure to written language enables children to quickly recognize morphological units within printed words (e.g., *ing*, *ed*). These units are recognized as a whole, without the need for specific letter-sound decoding. This ultimately fosters speed and efficiency in the word-recognition process. An important component of the alphabetic stage is the development of self-teaching, which leads to independence in learning to read.

According to Share's (1995) self-teaching hypothesis, previous exposure and practice at converting letters to sounds (i.e., phonological recoding) helps beginning readers to engage in self-teaching of new letter-sound correspondences. For example, a beginning reader can apply previous knowledge of letter sound correspondences to estimate an unfamiliar word's spoken pronunciation. Initial successful decoding attempts require only a small number of repeated exposures before the word becomes more familiar and quickly recognizable. This ability to self-teach increases the number of words in a reader's orthographic lexicon, which in turn increases reading fluency and proficiency.

The self-teaching hypothesis has important repercussions for reducing inequalities in reading achievement and supporting the transition to reading fluency in the orthographic stage. This is because children who approach reading instruction with a poor ability to

translate letters into sounds and to construct accurate phonological representations are more limited in their ability to self-teach than are children with more proficient knowledge. This highlights the importance of ensuring that children have opportunities to develop phonological and orthographic knowledge as part of the beginning classroom reading programme. Stage models highlight the importance of understanding how children progress towards accuracy and competency in word recognition. The importance of phonological knowledge, in particular PA and phoneme–grapheme correspondence, is critical in the alphabetic stages of learning to read. However, the purpose of reading is not to read written words in isolation. Rather, word recognition needs to be fluent within the context of connected text. Thus, theories of connected text reading are of interest to teachers because of their implications for classroom assessment and instructional practice.

3.6 Factors that Predict Early Reading Knowledge and Skills

The three theories have all placed phonological awareness and phonological awareness training as important factors in early reading acquisition. However, several other factors have been suggested as key predictors of early reading success.

3.6.1 Letter Knowledge

Letter knowledge or knowledge of letter identities by names or sounds (Muter & Diethelm, 2001), has been found to be strongly correlated with early reading development (Manolitsis et al., 2009; Winskel, 2013). In a study of English learners from different language backgrounds in Switzerland, across first-grade children, Muter and Diethelm (2001) found that letter knowledge was the most important predictor of reading skill followed by phonological segmentation ability (phoneme identification, deletion, and sound blending), and vocabulary. The pivotal role of letter knowledge was also reported in the reading acquisition of orthographically consistent languages such as Indonesian and Bosnian (Winskel & Widjaja, 2007). Duravonic et al. (2012) conducted a study on 505 preschool Bosnian-speaking children, and found that letter knowledge was an important reading predictor. The study also found that letter knowledge was associated with all phonological measures (Duranovic et al., 2012). The consistency between letter names and the sounds that they represent, to some extent, makes a difference to children's phonological awareness (Winskel, 2013).

3.6.2 Orthographic Processing

The term orthographic processing is often used interchangeably with lexical processing or look-and-say or sight-word reading strategy. The notion has been defined as the ability to remember word spellings and regularities in letter sequences (Cunningham and Stanovic, 1990). However, later scholars have specified the theory in terms of finer grains, not only covering the ability to remember word letter sequences, but also including letter sequences of sub-lexical elements, such as [i-e] letter combination in words ‘fine’, ‘line’, or ‘desire’ (Deacon, 2012; Sprenger-Charolles et al., 2003; Commissaire et al., 2014). Deacon (2012) argued that orthographic processing on a lexical level was reported to make an independent contribution to both word and non-word skills among children learning to read in English. Lexical-level orthographic skills were measured with a task in which the participant was to choose one from two alternative spellings, which are each phonologically plausible for a specific word (e.g. boal versus bowl). Commissaire et al. (2014) measured Canadian English-French bilingual first and second graders’ development of orthographic processing on both lexical and sub-lexical levels. On a lexical level, a child was to choose the correct spelling of the target word given orally by an examiner, e.g. rain or rane. For sub-lexical orthographic processing, the ability was measured by asking the child to decide which of two pseudo-words (and very high frequent words), e.g. cruck or cruq, looked more like an English word, when English words allowed [uck] ending such as in ‘truck’. The results showed that bilinguals of French and English have underlying orthographic processing skills due to similarities that both languages share (Commissaire et al., 2014, p. 16).

Therefore, in reading across languages, transfer is more easily achieved between two orthographically similar languages (Melby-Lervag and Lervag, 2011; Branum-Martin et al., 2012). Two writing systems can be equally phoneme-based or alphabetic, like Korean Hangul and English Roman, but the visual forms of the letters are dissimilar (Korean uses the Hangul system, whereas English uses Roman system), and so the two languages are not orthographically similar (Wang et al., 2006). The definition of orthographic processing is not limited to the ability to memorize the visual look of a word, but also the visual look of a syllable, or sounds such as letters or characters.

3.6.3 Rapid Automatized Naming (RAN)

While orthographic processing deals with the ability to memorize the visual forms of speech lexically and sub-lexically, rapid automatized naming (RAN) deals with the level of

fluency with which one can retrieve that memory. In other words, RAN is the ability to retrieve the pronunciations associated with symbols (letters and words) fluently (Georgiou et al., 2012). RAN is measured through articulation time and pause time, and in a study on Greek literacy acquisition, RAN was correlated with reading fluency of Greek children followed from second to sixth grade (Georgiou et al., 2012). The authors suggested that RAN is related to reading because it involves serial processing and oral production of the names of stimuli (Georgiou et al., 2012).

According to Georgiou et al. (2012), for transparent orthographic readers, RAN, or the speed of naming things, is more important than orthographic processing. Orthographic processing, which tested by asking children to choose the correct-spelled word from a word pair, was reported to be less important in decoding Greek transparent orthography but important in reading the English opaque orthography because English words have common letter patterns that can be decoded as orthographic unit rather than letter-by-letter (Georgiou et al., 2012).

In a longitudinal study of English, Spanish, Czech, and Slovak monolingual children ($n = 675$), Caravolas et al. (2012, p. 684) proposed RAN as one of the reading predictors in all alphabetic languages involved, along with phoneme awareness and letter sound knowledge. The authors of this study suggested that RAN is not like phoneme awareness and letter knowledge, which are skills that form alphabetic principle. Instead, RAN is a different mechanism regarding printed words and pronunciation (Caravolas et al., 2012). Somebody with higher phoneme awareness and letter knowledge but lesser knowledge of RAN is able to read correctly but not fluently.

3.6.4 Oral Vocabulary Skills

Oral vocabulary skills, mediated by lexical restructuring and phonological awareness, predict reading acquisition. This section reviews studies that provide evidence for how oral vocabulary skills impact directly literacy acquisition. Ouellette (2006) demonstrated that not all oral language skills related to decoding skills. The study examined closely the role of oral language in literacy skills by distinguishing the breadth (receptive) and the depth (expressive) of vocabulary knowledge among 60 fourth graders in a Canadian urban center. Although all children spoke and read English as their dominant language, some participants were also exposed to various indigenous languages at home. The participants were measured for non-verbal intelligence, pseudo-word decoding, visual word recognition

(children prompted to read aloud a list of orthographically complex words that could not be decoded with regular phonic rules) and reading comprehension. Oral vocabulary was measured through a receptive vocabulary test, an expressive vocabulary test, a word definition test (a word presented in written and verbally that the children were asked to define), and a synonym test (where the children were asked to select from four words, the synonym of the target word). The findings indicated that the breadth of the receptive vocabulary was the only oral vocabulary/feature that predicted decoding performance after age and non-verbal skill were controlled.

Expressive vocabulary predicted reading comprehension, and depth vocabulary knowledge predicted reading comprehension (Ouellette, 2006). Moreover, in a study on Chinese-speaking children learning L2 English, both English phonological awareness and oral language skills were reported to have predicted English reading skills (Yeung & Chan, 2013). The study also reported that English expressive vocabulary predicted word reading more strongly than picture naming or receptive English vocabulary.

3.7 Models of Reading Instruction

Models of reading instruction have been the center of much debate over the last 30 years, with contention existing between two alternative approaches: whole language instruction and phonics instruction. Recently, a balance of both approaches has been recognized as important for addressing a range of literacy needs in the classroom.

3.7.1 The Whole Word Approach

A whole word approach to reading instruction focuses on the meaning of written text and was the predominant approach to literacy instruction throughout the 1980s and 1990s (Moats, 2000; Pressley, 2006). Whole language is a constructivist approach to teaching reading and includes a number of key features such as: 1) an emphasis on immersing children in real literacy experiences, 2) child-centred instruction, 3) a focus on meaning, 4) connecting reading and writing processes and 5) the use of context, including syntactic and semantic cues, to deduce meaning. Children are encouraged to use strategies such as reading to the end of the sentence, drawing on prior knowledge, and using text structure to extract meaning (Moats, 2000; Pressley, 2006). This is in line with the top-down approach or text-level processing outlined in the interactive model of reading.

A whole word approach does not include explicit and systematic teaching of letter-sound relationships (i.e., phonics) or PA. Rather, attention is drawn to the links between letters and sounds as the need arises, and only in the context of connected text (i.e., embedded phonics) (Pressley, 2006; Walker, 2008). Underlying this approach is the assumption that children will learn to read ‘naturally’, as they did with spoken language, and that children learn to read independently with minimal explicit or direct instruction (Pressley, 2006; Tunmer, Chapman, & Prochnow, 2004).

A whole language approach to reading instruction has received criticism in the last decade due to a lack of focus on word-level skills. For example, Pressley (2006) highlighted two core features of this approach that lack empirical validation: 1) sentence context cues as the main strategy for decoding unfamiliar words and 2) reading as a skill that will develop ‘naturally’. Further, two large-scale studies entitled the Commission on Preventing Reading Difficulties in Young Children in 2008 (Snow, Burns, & Griffin, 1998) and the National Reading Panel in 2000 (Ehri et al., 2001) showed that explicit PA and phonics instruction (i.e., teaching children letter-sound correspondences) positively contributed to the ability to read words in isolation. Researchers suggest that a whole language approach may work well for children who have a strong understanding of PA and the alphabetic principle, but could be detrimental to children with inexperience in these foundation word-level skills (Tunmer, Chapman, & Prochnow, 2006). As a result, this research has contributed to a shift towards the inclusion of phonics instruction as part of the classroom reading programme in recent decades.

3.7.2 The Phonics Approach

A phonics-approach of reading instruction focuses on teaching children the relationship between letters and sounds, and how this knowledge can be applied to decode printed words (Walker, 2008). Phonics can be viewed as a bottom-up or word-level process through which individuals use phonological and orthographic features of written words to deduce meaning. Phonics differs from PA in that the focus is on teaching letter-sound patterns and, in the case of synthetic phonics, blending those letter-sound patterns together to decode or encode a printed word. Conversely, PA refers to an awareness of the sound structure of spoken words (i.e., no reference to letters but its teaching is paired with letter knowledge to bridge speech to print) and involves instructing children on how to identify,

blend, segment, delete and manipulate syllables, rhymes and individual phonemes in words (Gillon, 2004).

Support for phonics-based instruction (and PA) comes from the aforementioned reports from the National Reading Panel (Ehri et al., 2001) and the Commission on Preventing Reading Difficulties in Young Children (Snow et al., 1998). In addition, reports from the United Kingdom (e.g., Independent Review of the Teaching of Early Reading) (Rose, 2006), Australia (e.g., National Inquiry into the Teaching of Literacy) (Australian Government, 2005) and Scotland (e.g., The Effects of Synthetic Phonics Teaching on Reading and Spelling Attainment) (Johnson & Watson, 2005) assert the importance of using synthetic phonics as the teaching method of choice in the classroom. Although reference to the importance of PA is mentioned in these reports from the United Kingdom, Australia and Scotland; phonics teaching is given priority. This suggests that a gap exists between research evidence demonstrating the key role played by PA in learning to read and recommendations made in education reports on reading instruction.

3.7.2.1 Types of Phonics Instructional Methods

Several phonics-based methods have been reported in the literature, including synthetic phonics, analytic phonics, analogy phonics and embedded phonics.

3.7.2.1.1 Synthetic Phonics

In synthetic phonics, each letter-sound correspondence in a word is deduced and then blended together to form a word.

3.7.2.1.2 Analytic Phonics

In analytic phonics, letter-sound correspondences are taught without instruction in how to blend letter-sound links to encode or decode printed words and in which consonant blends are taught as whole units (e.g., 'pl' as opposed to 'p' and 'l').

3.7.2.1.3 Rime-based Phonics

Rime-based or onset-rime phonics method deals with onset- rimes and their orthographic and phonological representations in words (White 2005). Rime-based phonics is a phonologically-based method that has received attention in reading research and it involves teaching phonological and orthographic skills for remembering sight words and reading unfamiliar words using orthographic rime analogy or analytic word-reading strategy (Brown, Sinatra & Wagstaff, 1996; Ehri & Robbins, 1992; Gaskins & Schommer, 1988; Goswami, 1986, 1988, 1991; Goswami & Bryant, 1990; Greaney & Tunmer, 1996;

Treiman, 1992; Wylie & Durrell, 1970). Rime-based phonics teaches children to generate and use rime families of words such as hat, cat, fat, mat, bat and so on and due to this reason, some scholars, for example, Johnston (1999), also refer this method as a word family instruction.

3.8 Onset-rime Units, Rhymes, and Orthographic Analogies

An onset is the initial consonant or consonants that precede the vowel in a syllable. A rime is an intra-syllabic unit consisting of a vowel followed by one or more consonants (White, 2005). The ability to read unfamiliar words using an orthographic analogy strategy requires the reader to be able to recognize familiar orthographic (spelling) patterns in the words to be read. For example, reading the unfamiliar word *right* by making analogy to a familiar word *night*. The familiar orthographic pattern that generates the analogy is usually found within the rime (e.g., *-ight* in the given example) and that is therefore referred to as rime-based (Goswami, 1986, 1988, 1991; Hines, 2009; Goswami, 1993; Savage, Carless, & Stuart, 2003). Unlike rhymes, which sound similar but don't necessarily look the same, rimes are consistent both orthographically and phonologically (Hines, 2009).

According Ziegler and Goswami (2005); Ehri (1992, 2005) and Gaskins (2004), rime-based phonics is a helpful method of increasing the number of sight words in memory and facilitating the acquisition and development of word recognition both in beginners and weak readers of English for the following reasons.

Since rime orthographic units are the highest consistent units in English orthography, studies have shown that rhyme awareness is the most important predictor of reading success in children learning to read in English. Phonological knowledge at the level of the rhyme thus helps children to become aware of rime units in word spellings, and this orthographic insight in turn helps to develop phonemic knowledge of all the constituent phonemes in a given word. This process allows children to store the orthographic representations of the word in their mental lexicon. Once a quality representation of a key word has been formed in memory, it may be used to decode a number of other words that contain the same or similar spelling patterns or rimes (Ehri, 1992; Gaskins, 2004).and recognize it by sight (Cunningham, 2000; Gaskins, 2004; Goswami, 1998; Lovett et al., 2000; Ehri, 1992). The rime-based phonics instruction makes this fact happen since it consists explicit instruction in phonology (rhymes), orthography (rime) and the connection

between the two (analogy) (Goswami, 1993; Adams, 1990; Walton et al., 2001; Holligan & Johnston, 1988).

Rimes bring the English orthographic (spelling) system into consistency because they greatly reduce inconsistencies in the association of vowel letters with sounds. Hence rime based phonics instruction helps children read unfamiliar English words correctly and fluently by minimizing the reading barriers arising from the inconsistent nature of the English orthography (Goswami, 1998; Zigeler & Goswami, 2005; Johnston, 1999). This argument is supported by the results of different research outcomes. For example, Zigeler and Goswami, (2005), found that a child who has learned 600 orthographic rime patterns can read the 3,000 most frequent monosyllabic words in English. In addition, Wylie and Durrell (1970), showed that the knowledge of only 37 rime spelling patterns enabled beginning readers to recognize 500 of the most frequently occurring words in beginning reading materials.

Adams (1990), explained that rimes are simpler, more psychologically accessible sound units than phonemes or syllables and hence segmenting words into onset and rime is relatively easier than segmenting them into their phonemic components (Booth & Perfetti, 2002; Goswami & Mead, 1992; Savage & Carless, 2004). Furthermore, blending onset and rime units into words is easier for beginners and weak readers to read words quickly than blending individual phonemes (Walton, Walton & Felton, 2001; Ehri & Robbins, 1992 and Adams, 1990).

3.9 International Research Works on Rime- based Phonics Instruction

Rime based phonics interventions have been a focus of recent research. Rime-based phonics instruction teaches children how and when to make use of rime units to read and spell unfamiliar words (Brown et al., 1996). Vast majority of analogy based interventions researches were carried out in contexts where English is used as a first and second languages. Unfortunately, no local research works have been attempted so far in this regard. In the following section, an attempt will be made to review some of the intervention studies conducted by scholars across the world.

Ouellette and Sénéchal's (2008), and Sénéchal et al. (2012) investigated the effects of spelling practice of reading ability with typically developing children and those with reading and spelling difficulties. Reading and spelling are tasks that require the same

knowledge sources (Adams, 1990; Brown et al, 1996). Consequently, it is intuitive that practicing one should benefit the other, although not necessarily to the same extent.

Conrad (2008) investigated whether reading and spelling practice are transferrable (i.e. whether reading practice generalizes to spelling and spelling practice generalizes to reading). The study involved 41 typically achieving year three children divided into a reading practice group. Participants practiced reading or spelling a list of 40 words, four times a day over four days. Spelling practice was found to facilitate reading words more than reading facilitated spelling (Conrad, 2008). This finding is not surprising given that spelling is a more difficult task than reading, primarily because it requires fully complete mental representations of words. The results indicated that, as spelling practice facilitates the development of higher quality mental representations than reading practice does, it is more likely to transfer to reading than vice versa. The children in this study were found to be able to segment common spellings and use them to read and spell new words (Conrad, 2008). These findings support the concept that reading and spelling programmes should be coordinated, and that spelling instruction may be especially important for developing reading skills of young children (Conrad, 2008; Ehri & Robbins, 1992).

Subsequently, Conrad and Levy (2011) studied the effects of teaching children with reading difficulties to recognize common spelling patterns within words. Words with shared orthographic patterns were presented with the shared portion highlighted for emphasis and the children were taught to attend to the similarities between them (Conrad & Levy, 2011). The intervention programme resulted in improvements in accuracy and speed of reading (Conrad & Levy, 2011). This study provided evidence to support the teaching of orthographic analogies within words in order to increase the efficiency with which children with reading difficulties develop their knowledge of spelling patterns and regularities, and decoding (Conrad & Levy, 2011).

Together, the results of Conrad (2008) and Conrad and Levy's (2011) studies demonstrated that typically developing children are better at generalizing analogy skills than those with reading difficulties, indicating that children without sufficient decoding skills are unable to use analogies effectively enough to generalize the strategy to unknown words (Ehri, 1998, Ehri & Robbins, 1992; Conrad & Levy, 2011). In addition, struggling readers usually need more practice at reading words before orthographic representations become secure; and

they are also likely to require explicit instruction on attending to and utilizing shared orthography between words (Conrad & Levy, 2011).

The results of Ouellette and Sénéchal's (2008) and Sénéchal et al.'s (2012) studies provided direct evidence that training and practice in invented spelling can lead to improvements in reading. Ouellette & Sénéchal's (2008) investigated the effects of invented spelling instruction in typically developing five-year-olds, and Sénéchal et al. (2012) investigated effects of similar training on five-year-olds who were at risk of reading failure. Explicit training in invented spelling that included repeated practice and developmentally appropriate, targeted, feedback on how the each spelling attempt could be improved was delivered over a period of four weeks in Ouellette & Sénéchal's (2008b) study and eight weeks in Sénéchal et al.'s (2012) study. Both of these programs resulted in greater improvements in word reading for intervention group children over controls. Two control groups were employed in each study, one was taught phonemic awareness skills, and the other an unrelated activity (e.g. drawing pictures). The outcomes of these studies indicate that practicing invented spellings for unknown or new words is important as it helps children recognize the way spoken words map onto phonemes, and encourages the development of high quality lexical representations of words in memory (Sénéchal et al., 2012). Lexical representations (combinations of phonology, orthography, and meaning) are critical for the development of sight word reading (Ouellette & Sénéchal, 2008).

CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

The purpose of this study, as presented in Chapter 1, was to test whether an explicit rime-based phonics method improves students' phonological awareness and word recognition scores. This chapter attempts to discuss the paradigm, approach, design, and methodology of the study. It also addresses the research setting, participants, sampling techniques, research methods, intervention materials, data collection tools and procedures used in the study. Finally, it looks into the aim and results of the pilot study.

4.2 Research Paradigm

It is evident that the research paradigm influences the way knowledge is examined and interpreted. It is the choice of paradigm that sets the motivation and expectation of any research. Without choosing a paradigm as a first step, there is no basis for later decisions regarding methods and research design. In this study, the researcher has therefore followed the postpositivist knowledge claim as it enables him to adapt an experimental research method and examine the effects of the independent variable (i.e. the explicit rime-based phonics method) on the dependent variables (phonological awareness and word recognition outcomes).

Postpositivism has recognized that it is impossible to be positive about our claims to knowledge when studying human behavior and actions. Therefore, postpositivists emphasize the need to study causes that affect outcomes, such as variables studied in the experiment. The knowledge sought by a postpositivist theory is based on careful observation and measurement. As a result, developing numerical measures of observation and studying the behavior of individuals become very important to a postpositivist. Therefore, postpositivists strongly suggest that theories that govern the world need to be tested and refined so that we can better understand the world. In this regard, Creswell (2009:32) says, “in the scientific method-the accepted approach to research by post-positivist, an individual begins with a theory, collects data that either supports or refutes the theory and then makes necessary revisions before additional tests are conducted.”

4.3 Research Approach

Various assessment results showed that Ethiopian primary school students generally perform poorly in basic reading skills such as phonological awareness and word

recognition (NLA, 2000-2016; EGRA, 2012). Studies by Cunningham et al. (2004); White (2005); Erri et al. (2001); de Graaffe et al. (2009); Vellutino et al. (2004) emphasized that an effective method of teaching reading in the early graders influences the acquisition and development of basic reading skills more than any other single factor. The researcher of this study believed that one of the causes of poor basic reading performance in students is ineffective teaching methods used in the elementary school classes in Ethiopia, and a training-based intervention in explicit rime-based phonics method could help improve the poor phonological awareness and word reading performance of the children. In this study, choosing the postpositivist paradigm allowed the researcher to adopt a quantitative approach, to collect quantitative data using numerical measurements such as tests, analyzed and interpreted the data statistically and tested the hypothesis.

The quantitative approach aims to test hypotheses and identify numerical differences between groups. This means that quantitative data is represented by numbers and evaluated statistically. Quantitative methods were originally developed in the natural sciences to study natural phenomena. Other methods in the social sciences such as survey and experimental methods are accepted as examples of quantitative methods. According to Savage, Carless and Stuart (2003); Hines (2009); White (2005) and Goswami (1998), an experimental research method is a common research tradition in early grade reading pedagogy. It is widely employed to investigate the effects of different teaching methods currently used to teach basic reading skills mainly in alphabetic languages such as English on different groups of learners (e.g., first, second and foreign).

4.4 Description of the Study Area

The study was carried out at two public primary schools in Hawassa, Ethiopia. Two schools were selected to geographically isolate the experimental and control groups and minimize the possibility of contamination of the control group. The study site is within the region where the highest number of non-word readers (68%) was found in the 2010 National EGRA (Piper, 2010). The participating schools were the typical Ethiopian public primary schools, where the children's mother tongue is used as the language of instruction and English is taught as a school subject from the first grade.

4.5 Sample Population

The data for this study were generated from two public primary school students in Hawassa. More specifically, students from Grade Three and their English language

teachers were the subjects of the study. Grade Three was deliberately chosen as the official word study lesson starting with this grade in Ethiopia. All of the students in this study spoke their native language at home. The parents of these children were mostly lower or lower-middle class citizens who would not communicate with their children in English at home. In general, children were only exposed to English at school in English classes. The average mean age of students was 10 years. There were two participating teachers, one for each group that came from the two different schools. The teachers both in the pilot and main study had English diplomas and were studying for their B.Ed. degrees in the part-time summer program. The mean teaching experience of the teachers in the pilot study was 12 and 13 years, and 10 and 15 in the main study respectively.

4.6 Sampling Techniques and Procedures

As discussed above, the focus of this study was on Grade Three public primary school students and their English teachers. A mixed sampling design was used to select participating schools and students. According to information from the Hawassa City Education Department, as of the 2013-14 school years, there were 22 public (government) primary schools in and on the outskirts of Hawassa. Of the 22 government schools, two schools were selected for the pilot study and two other schools for the main study using a purposive sampling technique. This technique was chosen to carefully select the participating schools, to ensure that the schools were comparable in terms of students' socio-economic background, school resources, teaching methods, and English teachers' qualifications and experience. In order to ensure this, data on the level of the schools were first collected from the city administration's education department and later confirmed by observations and interviews with school heads. Finally, based on the data, two schools, Nigist Fura and Tabor Primary Schools were selected for the pilot study and Hawassa Haiq and Ethiopia Tikidem Primary Schools for the main study. These schools were comparable in terms of resources and teacher profiles, and consisted of large numbers of children from families with low socioeconomic backgrounds.

Four grade three English language teachers one from each participating school ($N=2$ for the pilot and $N=2$ for the main study) were selected through comprehensive sampling technique as there number was limited (there was only one teachers teaching English for Grade Three students in each the participating school).

Sample students were selected from each participating school using random sampling techniques. Sections were used as the unit of randomization and one Grade Three section was randomly selected from each participating school. In both the pilot and main studies, a pre-test was conducted to examine the initial phonological awareness and word recognition performances of the students in the selected sections. The result showed that there were no statistically significant differences in the phonological awareness and word recognition performances of the students in the two schools. After examining the comparability of the students, the sections of the two schools were randomly assigned to experimental and control groups. Accordingly, in the pilot study, the section in Nigist Fura Primary School was assigned to experimental group, and the section in Tabor Primary School to control group, and the section in Hawassa Haiq Primary School was assigned to experimental group, and the section in Ethiopian Tikdem Primary School to control group in the main study.

4.7 Research Design

According to Nunan (1991) and Jensen and Jankowuski (2002), a research design is an arrangement of conditions for data collection and analysis that are both relevant to the research purpose and manageable in the procedure. In other words, it is the conceptual structure within which research is conducted. It represents a roadmap for data collection, measurement and analysis. In relation to this study, the researcher used a quasi-experimental - pretest-intervention-posttest-control group research design. Quasi-experimental research is a study of cause and effect; it differs from non-experimental methods in that it involves deliberate manipulation of one variable while attempting to keep all other variables constant (Morris, 2009).

4.7.1 Research Method

As noted earlier, students and teachers from grade three public primary schools participated in this study. An experiment was the primarily method used to conduct the study.

4.7.1.1 The Experiment

An experiment was conducted to investigate whether an intervention in explicit rime-based phonics method improve the phonological awareness and word recognition outcomes of Grade Three students who were selected and assigned to either an experimental or a control group. The outcome of the dependent variables was measured

twice, once before the intervention - pretest and once after the intervention - posttest. There were two conditions, an explicit rime based phonics method and word study and vocabulary lessons as a treated comparison. The experimental group taught basic reading skills using word study and vocabulary lessons prepare for this study with an explicit rime-based phonics method. The control group taught basic reading skills using the actual word study and vocabulary activities from the existing Grade Three students' textbook not in explicit rime based phonic method.

Students who participated in the intervention were encouraged to work very hard and collaborate with the teacher and friends for the success of this study. In addition, the researcher designed and conducted training for the experimental group teachers and the control group teacher (i.e., the control group teacher was trained only in the main study) and also provided guidance to the students in the experimental group to clarify the intentions and objectives of the intervention program. This section of the chapter is divided into two sub-sections. The first sub-section deals with the preparation of materials used in the experiment and the second sub-section discusses the procedures of the experiment.

4.7.1.1.1 Preparation of Experimental Materials

Different materials were prepared and used in the experiment. These include students' teaching materials, teachers' guide and teachers' training manuals. The purpose, nature and organization of each material are briefly discussed below.

4.7.1.1. 1.1 Preparation of Students' Teaching Materials

Students in the control group were taught basic reading skills using the actual word study and vocabulary lessons from the Grade Three existing English textbooks, while the experimental group was taught based on the teaching materials prepared for this study (See the Experimental Group Students' Teaching Materials from Appendix A in the Teachers' Guide and the Control Groups' from Appendix B). The main goal of preparing the teaching materials was to present the word study and vocabulary lessons with an explicit rime-based phonics method and to help students develop their phonological and orthographic knowledge and processing skills.

After running successful rime-based phonics programs, scholars such as Cunningham (2000); Gaskins (2004); Goswami (1998); Lovett et al. (2000); Munro (1998); Peterson and Haines (1992) recommended that a rime-based phonics intervention instruction should have the following basic features, including systematic and explicit instruction in

phonological and orthographic skills and strategy use based on word families and common rime units, in addition to modeling and practicing guidance in context followed by clear and immediate corrective feedback and reflection. In addition, White (2005) has proposed the following three principles for designing effective rime-based phonics instruction. The principles are:

1. Either prior to or in together with analogy teaching, there should be classroom activities aimed at teaching rhyme, initial phoneme identity and letter sound knowledge, particularly initial consonants, digraphs and blends.
2. Instructional activities should ensure that basic words, which represent common spelling patterns, are well learned or overlearned. It can also be helpful to post the base words in a prominent place in the classroom (e.g., on a "word wall").
3. Children need to see multiple examples of words with the same spelling pattern in a format that encourages them to notice all the letters in each word (p. 26).

These key features and principles were adapted and used as instructional framework for the design, development, organization and presentation of intervention lessons and activities. Accordingly, the word study and vocabulary lessons and activities for the intervention group were developed on the basis of 200 monosyllabic word families with 37 common rime units compiled by Wylie and Durrell (1970); *ack, ake, all, ale, an, ame, ain, ank, ap, ash, at, ate, aw, ay, eat, ell, est, ice, ick, ight, ill, ide, in, ine, ing, ip, ink, it, ock, op, oke, ore, ot, uck, ug, unk and ump*. According to Wylie and Durrell (1970), these rime units are reliable because their pronunciation is consistent across words, and moreover, over 500 basic English words can be formed using these rime units.

The words were high frequency words with CVC, CCVC, CVCC, and CCVCC structures (e.g., cat, ship, pink, and shock) and were selected from existing Grade Three English textbooks (Book-1 and Book-2). The words were grouped into word families under the 37 common rimming units and used as keywords to present activities through explicit rime based phonics method. Word families "rhyme," because they often share a common rime unit. Moreover, word families make learning easier in that the pronunciation of vowels is more stable within a family than across families. For these reasons, organizing word study

and vocabulary activities using word families with common and reliable riming units provides a meaningful context through which students practice and develop their rhyme, rime and phoneme awareness and a strategy for reading new words through analogy (Adams, 1990; Wylie & Durell, 1970).

In the lessons, the rime units were presented individually and ranked by popularity and difficulty, starting with the most common and less challenging first. This was done to provide less challenging word-level work while establishing routines and the language to be used throughout. Rimes and keywords were introduced at the beginning of each lesson.

Two types of lessons were prepared and used to teach students in the experimental group. The first groups of lessons (i.e., nine lessons) were designed to improve the prerequisite knowledge and skills needed to effectively participate in rime-based phonics intervention program and to familiarize students with terms and concepts used in the intervention (i.e. sounds, letters, vowels, consonants, diagraphs and blends). The following contents and activities were integrated into these lessons; the correspondence between letters and sounds in English (phonics), phonemic awareness sub-skills such as segmenting words into phonemes, blending phonemes into words, deleting and replacing phonemes to form new words, and an introduction to the 37 reliable rime units.

The aim of the second group of lessons (i.e., about 37 lessons) were to help students thoroughly learn the orthographic and phonological features of the rimes and keywords included in each lesson and use them as a basis to improve their phonological awareness and orthographic processing skills that would enable them read unknown words.

The lessons in this category were organized and presented in series. The first series of lessons aimed to teach the lesson routines and content, and to familiarize students with terminologies used in the intervention lessons (e.g. onset; rime; sentence; words and non-words) and to offer the students opportunities to build up their confidence in both the content and the processes of the intervention in a controlled manner. The rimming units chosen as a starting point for these sessions were two letter common and less demanding ones (e.g. -at, ot, op).

The next series of lessons were developed with three letter rimming units and aimed to give students the opportunity to practice phonological and orthographic processing skills, rime-based decoding strategies and to reinforce the lesson routines and content. The

rimming units chosen for these lessons were less familiar and a little more challenging than the previous ones. The remaining series of lessons were developed with three letters rimming units contain diagraphs e.g., –ash and blends with silent sounds e.g. –uck. The lessons aimed to provide practice opportunities to the students to manipulate and analyze the letter and sound patterns of the target rimes and keywords in a less controlled manner.

4.7.1.1.1. 2 Preparations of Teacher’s Guide for the Instructional Material

The lessons were organized in session plans, compiled into a manual and provided to the experimental group teachers to help the teachers use it as a teacher's guide to conduct each lesson effectively (See the teachers’ Guide from Appendix A). The manual contained detailed lesson plans prepared for each lesson, rime units and keywords, lesson objectives, a list of teaching aids, activity descriptions with time breakdown, and language and expressions used by the teacher.

4.7.1.1.1. 3 Preparation of Teachers’ Training Manual

As discussed in the empirical review section of this paper, most studies conducted on rime-based reading instruction focused on children with reading difficulties in either the first language (L1) or second language (ESL). In most cases, the researchers themselves were the implementers of the intervention. Furthermore, most of the studies were conducted in dedicated intervention programs that were contextually detached from the students' actual teaching and learning environments. This study with the above objectives was conducted by actual classroom teachers in actual settings.

From the researcher’s own personal experience as a teacher educator and his perusal of the country’s national teacher training documents and curriculum materials he learned that components of basic reading skills and ways of teaching basic reading skills are almost neglected areas in Ethiopian primary teacher education curriculum.

The teacher training aspect of this study was essentially designed and made available to the teachers implementing the intervention in order to fill this gap and also to support the experimental group teacher to have a clear understanding of the research project and to know his/her role. Therefore, developing a training guide and training the teachers prior to the intervention program was one of the important tasks done for the purpose of this research, as it increases the effectiveness of the intervention.

Accordingly, a two-version teacher training manual was developed to train teachers teaching the students in the experimental and control groups (See the Teachers' Training Manuals from Appendix C). The main aim of the manual was to help the researcher train the teachers effectively. The framework for the design of both versions of the training manual was adopted from National Standards for English Language Teachers in Ethiopia (MoE, 2013).

4.7.1.1.4 Preparation of Students' Activity Booklet

Students Activity Booklet is a material compiled with Word Analysis and Elkonin Box Templates and rime units and keywords for each unit lesson and provided for the experimental group students. The main purpose of the booklet was to aid students' learning and also save the instructional time.

4.7.1.1.2 Experimental Procedures

4.7.1.1.2.1 Training Teachers

Before the start of the intervention program, the teachers of the experimental group (both in the pilot and main study) and the teacher of the control group (only in the main study) were trained using the teacher training guide prepared for this purpose. The purposes, durations and mode of delivery of the trainings are discussed below.

a) Training the Experimental Group Teachers

Purpose and duration of the training

The ultimate goal of the training was to help the teachers become familiar with the knowledge base of the study and the instructional materials and methods used in the 12-week pilot and 16-week main study interventions program. Specifically, it was aimed to enhance teachers' knowledge; skill and professional competence in teaching word study and vocabulary activities with an explicit rime-based phonics method and deliver the intervention training effectively.

The training was given by the researcher in the teachers' respective schools, in the opposite shift to their actual school program. The teachers were given an intensive hands-on training for five days, two hours a day. It started on May 10, 2021 and ended on May 14, 2021 for the pilot study and started on February 14, 2022 and ended in February 18, 2022 for the main study.

Mode of delivery of the training

At the beginning of the training, the teachers received a binder containing the teachers' guide with all lesson plans, teaching aids and stationery needed for the training. The training was carried out according to the pre-planned training plan. The first day of training focused on developing teacher knowledge on the nature and role of basic reading skills, factors affecting the acquisition and development of basic reading skills, and the role of the teacher and teaching methods in the development of basic reading skills. The second day of the training dealt with the two teaching approaches for teaching basic reading skills- the whole word vs. phonics. The third day was mainly designed to increase teachers' knowledge of the professional skills and knowledge needed to teach basic reading skills with an explicit rime-based phonics method. On the fourth day of training, the goal, rationale, and structure of the intervention lessons and activities were thoroughly discussed, example lessons and activities were reviewed and demonstration lesson was presented by the researcher. Finally teachers were asked to select two lessons and conduct micro-lesson the next day. On the fifth or final day of the training, the teachers presented the micro-teachings under the guidance of the researcher. The teachers then completed the self-reflection reports and received feedbacks and instructions from the researcher.

b) Training the Control Group Teacher

Purpose and durations of the training

As mentioned above, the training for the control group teacher only took place in the main study. The training aimed to develop teacher's general knowledge related to the types, nature and importance of basic reading skills and the two approaches to the teaching of basic reading skills - whole word vs. phonics. The training was given by the researcher in the teacher's school on the opposite shift. The teacher was trained two hours a day for two days. The training started on February 18, 2022 and ended in February 20, 2022.

Mode of delivery of the training

At the beginning of the training, the teacher received a folder with the teacher training manual and the stationary materials needed for the training. The training was carried out according to the pre-planned training guide. The first day of training focused on developing teacher knowledge of the nature and role of basic reading skills and factors affecting the acquisition and development of basic reading skills. The second day of the

training dealt with the theoretical foundations and pedagogical implications of whole word vs. phonics teaching methods.

4.7.1.1.2.2 Teaching Students

Purpose and duration of students' instruction

As noted earlier, the main aim of this study was experimenting whether or not an explicit rime based phonics method significantly improves primary EFL students' phonological awareness and word recognition outcomes. To achieve this goal, an intervention program was designed and provided to participating students.

The intervention program required an extra hour of teaching in the opposite shift. Participating teachers had to conduct two hours teaching per week (i.e., three 40 minutes lessons in a week) using the word study and vocabulary lessons prepared for this study and word study and vocabulary activities from Grade Three English textbooks. In the pilot study, the control group stayed with the regular word study and vocabulary activities from their textbook in their actual classroom. Based on the insight drawn from the pilot study, in the main study, the control group was also taught for two hours per week using the word study and vocabulary activities from the actual Grade Three textbook. This was intended for additional revision exercise and to minimize the gap between the control and the experimental groups. Actually, the control group only learned the word study and vocabulary exercises available in the course book. These exercises were not presented with an explicit rime based method.

The intervention lasted 12 weeks for the pilot study and 16 weeks for the main study, with a total teaching time of 24 hours for the pilot study and 32 hours for the main study. The intervention for the pilot study was conducted in the second semester of 2021 (2013 EC) academic year and started on May 17, 2021 and ended on August 02, 2021 (NB. The school academic calendar was extended due to the Covid- 19 pandemic). The intervention for the main study was carried out in the second semester of 2022 (2014 EC) academic year. It was commenced on February, 21, 2022 and completed on June, 27, 2022.

The intervention was conducted in separate classrooms in Nigist Fura (for the pilot study) and Hawassa Haiq Primary School (for the main study). The teachers were encouraged to conduct the training mainly in English and to use the students' native languages when the students could not understand instructions and concepts. The researcher observed classes

twice a week and talked to the teachers to evaluate the implementation of the intervention, provide professional and technical assistance to the teachers, and collect the teachers' feedback on each of the intervention lesson.

Students' Classroom Teaching Methodology

The students in the control group were taught basic reading skills using word study and vocabulary lessons from their textbooks not in explicit rime-based phonics method. The teachers wrote words and parts of words from the word study and vocabulary activities on the board, modeled the pronunciation of some words, and then asked the students to say the rest of the words. They also used to ask students to say the meaning of the words in either English or Amharic. In some sessions, teachers also taught the synonyms and antonyms of the words and encouraged students to write sentences using the words.

Whereas in the experimental group, each lesson followed the same predictable structure and sequence. Different activities were used in each stage of the lesson to revise, introduce and practice the target rime and keywords. The activities in each lesson were designed to be engaging, interesting and multi-sensory in order to keep the students' enthusiasm and motivation and to give them the opportunity to practice the main areas this research project aimed to improve: phonological and orthographic knowledge and processing skills and word recognition outcomes. The activities included, saying the rime units, saying, segmenting and blending the target words orally, making up rhymes, sorting out rimming words, transferring the rimming unit to other words, reading and identifying the keywords in sentences and writing the words. The activities were presented and practiced through language enriched environments such as, tongue twisters, games, songs and puzzles.

Every lesson was organized in four different lesson stages (introduction, presentation, practice, production). The lesson stages and activities are described below.

Introduction

At the beginning of each lesson, games were modeled by the teacher and played by the students to revise the rime unit and keywords from the previous lesson and to arouse the curiosity and interest of the students in the new lesson. This was followed by an oral work in rhyming and breaking words into onset -rime units. Keywords (maximum three) from the previous lesson were analyzed orally. This was done to create a link between the

background knowledge of the students and the new content of the session. This allowed the students to build on what they already knew. Then oral discussion and brief summary of the previous lesson was made. Achievements, difficulties, and discoveries about language from the previous lesson were briefly discussed. The aim of the discussion was to raise students' metacognitive awareness of the ways they can take control of their learning and to celebrate enthusiasm and success. By giving students an understanding of the rationale for the methods they were learning, their motivation to use the strategies could be improved (Gaskins et al., 1998b; Gaskins, 2004). The main activities in this stage of the lesson were games, oral segmentation and blending activities and discussions.

Presentation

At this stage of the lesson, the teacher introduced the rime and keywords, modeled their pronunciation and introduced the words onset and rime, and the vowel to describe the word parts. In the first week of the intervention, three to four keywords were introduced and used as a basis for the lesson. In the eighth week, the students became familiar with the intervention procedures and the number of keywords was increased to six. The main activities used at this stage were writing rimming units and keywords using letters, identifying the phonological structures of the rimming units and keywords, generating and reading rhyming words, reading tongue twisters and identifying the phonemic structures of the keywords.

First the teacher constructed one or two keywords from the list, the students then used letter and rime cards to form the other words. Then, the teacher used the phonological structure (i.e., C-rime or CC-rime) and provided other words that rhyme or alliterate with the pattern. This allowed students to see how to transfer knowledge and form rhyming words based on the given pattern. Next, the teacher wrote the tongue twister using the session keywords and modeled its reading first and practiced with the students and finally invited the students to read it at different speeds. Finally, the teacher showed the phonemic structure of the keywords. The teacher segmented the key words into sounds and talked about the similarities and differences of sounds and letters in specific words.

Production

During this stage, the teacher modeled how to analyze the keywords. A template (see Figure 1 below) was used to guide the analysis process. Then the teacher instructed the

students to choose a word and fill out the word analysis template. Words were fully analyzed, meaning an examination of the letters, their corresponding phonemes, and their spelling pattern or rime. In weeks four through seven of the intervention sessions, the analysis was modeled by the teacher and then performed as a written assignment by the students using their own copy of the word analysis template. Then had the students read their analysis aloud. By the eighth week, the students were confident enough to fully analyze the words. Therefore, the teacher stopped modeling and asked the students to choose words and analyze.

Analyzing

1. The word is_____.
 2. Stretch the word. I hear _____sounds.
 3. I see _____letters because_____.
 4. The spelling patter is _____.
 5. This is what I know about the vowel_____.
 6. Another word on the Word Wall is_____.
- They are alike because _____.

Figure 2.The Word Analysis Template (Gaskins et al., 1998).

This was followed by an activity of generating and reading rhyming words. The teacher listed as many rhyming words with the target rime on the board (i.e. can be words and non-words), modeled their reading and guided students to generate as maximum number of rhyming words, add to the list, identify the onset and the rime and read to themselves, a partner, or the class in the format such as *“If I read (e.g. night), then I read (e.g. light) because both words have -ight”*.

Spelling with Elkonin Boxes was another practice activity for the students. A prepared template, based on Elkonin Boxes (Elkonin, 1973) (See Figuer 2 below), was used to allow students to develop the ability to break down words into their constituent phonemes. Then the teacher guided the students to choose keywords and fill in the Elkonin Box. They were instructed to stretch the phonemes in the target word and were instructed to allocate one

phoneme per box and cross all remaining boxes to indicate that the word contains only the specified phonemes. The modeling effort required for this activity was initially high as students were confused by the difference in the number of letters and the number of sounds contained in some words, e.g. chat, flat, ship.

Sh	I	P	X	X
F	Igh	T	X	X
T	R	Ai	N	X

Figure 3. Spelling with Elkonin Boxes (Elkonin, 1973).

The following activity was making orthographic – phonemic links. The teacher discussed how similar the words were, both in their shared letter clusters and in shared sounds. The teacher approached this task by gradually modeling words, e.g., started by adding single consonants to the target words, then built on the ends of words and expanded the words, e.g. chat, chats, chatter.

The final practice activity was weekly sentences. The guided practice of word analysis ultimately aimed to increase the number of fully analyzed words in the children's lexical memory, so that their ability to apply this knowledge to decoding unfamiliar words was dramatically increased (Gaskins et al., 1998b; Gaskins, 2004). The weekly sentences were written in whole or in part by the researcher to ensure that they contained a range of keywords or analogous words covered in the week and were engaging for the students. Sentences were introduced on the last day of the week after the introduction of the new keywords for the week. Students were given their own copy of the sentences and pointed to each word as the teacher read it aloud. After the students had the sentences read to them, they engaged in echo reading, a repeated reading strategy designed to help students become fluent. The teacher read each sentence first and the student repeated the same line while following the text. Then the students took turns reading lines while the others followed along with their fingers. As a further exercise, the students were given a copy of the weekly sentences in which they could find, read and circle or underline any words that

share a common spelling pattern. Each student received a copy of the weekly sentences to take home and practice reading with their parents.

4.7.2 Data Gathering Tools/Measurements

In this research project, the main data gathering tools were tests (see the test in Appendix F). They were administered twice, before and after the intervention. A pre-test was given before the intervention began for both the control and experimental groups. After the students in the experimental group were taught for twelve weeks in the pilot study and sixteen weeks in the main study a post-test was conducted in order to see if there was any significant difference in the phonological awareness and word recognition outcomes of the control and experimental groups.

4.7.2.1 Pre-test

A pre- test was given before the intervention began to all students in the control and experimental groups to examine the initial phonological awareness and word recognition abilities of the students in the two groups.

4.7.2.2 Post- test

After the students in the experimental group were taught basic reading skills using word study and vocabulary lessons with an explicit rime based phonics method and the control group taught basic reading skills using word study and vocabulary lessons through non-explicit rime based phonics method, again both groups were given a post- test at the end of the intervention program to find out if there was any significant difference in phonological awareness and word recognition outcomes of the groups. The same tests, as in the pretest, were administered to both groups.

4.7.2.3 Preparation of Tests and Testing Materials

Two sets of tests and two different testing materials were adapted from multiple sources and used to collect data for the study. The type and purpose of each set of test and supplementary testing materials are discussed below.

4.7.2.3.1 A Test on Phonological Awareness-PA

The first set of test was developed based on the Phonological Awareness Test (PAT) by Robertson and Salter (Robertson & Salter, 1997) and The Phonemic Awareness Test of Gough-Kastler-Roper (GKR) (Gough, Kastler, & Roper, 1984) to collect data and address the first three specific objectives. It is an oral test and the scores from this test were able to

provide information about the phonological awareness abilities of a given student, as well as the entire group. The test consisted of 11 subtests (one for word level, two for rhyme level, two for onset- rime level and seven for phoneme level phonological awareness). Each subtest contains seven items; the total number of items was 77. The types and nature of each subtest is described below.

(a). *Sentence Segmentation*

The purpose of this subtest was to evaluate students' ability to identify the words that make up a given sentence. To do this, seven simple sentences with 3-5 common words were selected from the students' English textbooks and used. The children had to listen to each sentence and say the words that compose the given sentence.

(b). *Rhyme Recognition*

This subtest aimed to measure students' ability to recognize rhymes and alliteration of words. Seven rhyming and non-rhyming word pairs were selected from students' English textbooks and used for this purpose. The children had to hear and identify pairs of words that rhymed and didn't rhyme.

(c). *Rhyme Production*

This subtest aimed to measure students' ability to generate or produce rhyming words. Seven high-frequency words were selected from children's English textbooks and used in this test. The students were given a word and asked to say their own word that rhyme with the one given.

(d). *Onset-rime Segmentation*

The main purpose of this subtest was to examine the students' ability to recognize the onset and rime that comprise a particular word. Seven words were selected from students' English textbooks and read aloud to the children to divide them into onset and rime.

(e). *Onset-rime Blending*

This subtest aimed to assess the students' ability to blend the given onset and rime to form words. The students were given seven pairs of common onset and rime and were asked to blend each pair and form a word.

(f). Phoneme Segmentation

In this subtest, the students were assessed on their ability to enunciate the sounds that comprise a simple word. Seven common words were selected from the students' English textbooks and used in this test.

(g). Phoneme Blending

This subtest required the students to blend together verbally presented phonemes to form a word.

(h). Phoneme Deletion

This subtest contained two parts. The first one was for deletion of the initial phoneme in the presented words and one for deletion of the final phoneme in the presented words. For example, students were asked "can you say 'top' without the /t/?", and "can you say 'same' without the /m/?".

(i). Phoneme Substitution

This subtest also had two sections, students were asked to swap first the initial phoneme in the target words for a specified alternative, and then to manipulate the final phoneme in the target words for specified alternatives (e.g. "can you say 'ball' not with a /b/ at the beginning but with a /k/ and "can you say 'park' with a /t/ at the end instead of a /k/?").

4.7.2.3.2 A Test on Word Recognition

The second set of test was designed to measure the word recognition ability of participating students and to address the second three specific objectives. Three tests were developed by adapting the RTI English EGRA tests (RTI, 2012), The Burt Word Reading Test (Gilmore, Croft, & Reid, 1981); The Bryant Test of Basic Decoding Skills (Bryant, 1975) and used to assess the students' fluency and accuracy in reading the given words. In this study, word recognition refers to students' ability to read printed words accurately and fluently. Therefore, all tests were time tests and required the students to correctly read the given words within one minute. The types and nature of each test are described below.

(a). Instructed Words Reading Test

The main purpose of this test was to measure students' ability to visually recognize learned words presented in isolation. From the 200 keywords, 40 monosyllabic words with CVC, CCVC, CVCC and CCVCC structures were selected and used for this purpose.

(b). Invented or Pseudo words Reading Test

This test was designed to measure students' ability to phonologically decode isolated potential words without contextual clues. The words could only be read using phonemic cues. These words were 40 monosyllabic nonsense words with CVC, CCVC, CVCC, and CCVCC structures constructed using learned rime units and common English spelling patterns.

(c). Non-Instructed (Novel) Words Reading Test

This test provided a measure of students' ability to read isolated, novel words by using their phonological and orthographic knowledge and processing skills and analogy decoding strategy. The students were tested with words analogous to the keywords practiced during the intervention. The test contained 40 monosyllabic regular words with CVC, CCVC, CVCC and CCVCC structures.

4.7.2.4 Testers' Booklet

The Tester's Booklet (See the Testers' Booklet from Appendix G) is a booklet complied with instructions, testing and scoring guidelines, example and actual test items, scoring and early stop remark boxes. The booklet had two main parts. The first part is the preliminary section of the test which provides information to the tester and the student about the purpose, requirements, procedures of conducting the test, the verbal consent statement and information about student's code, age, gender, name of the school, etc. The second part of the booklet contains the actual test items. This booklet was used to orally administer the test and score students' responses. One booklet was used for one student.

4.7.2.5 Students' Stimuli Sheet

Students' stimuli sheet (See the Students' Stimuli Sheet from Appendix H) was a laminated A4 sheets of paper consisted with 40 sight words, non-words or novel words arranged five in a row and given to a student during the test to read. Three different

stimuli sheets (i.e., one for instructed words reading, one for invented words' reading and one for novel words' reading) were prepared and used separately.

4.7.2.6 Data Gathering Procedures

4.7.2.6.1 Conducting Testers' Training

Since the instrument used to gather data for this study was an oral test administered at individual basis, the quality and accuracy of the data depend largely on the ability of the tester to encourage and calm the students such that they perform to the best of their abilities. False-negative results, from students who can perform well but who are nervous or fearful, can be minimized with the right approach. The second important qualification is the ability to handle several tasks at one time, including listening to the student, scoring the results, and operating a stopwatch or timer.

Two English language instructors who were participants in the 2012 National English EGRA and had EGRA testing experiences were selected and given three days training and exposed to a two round pre-pilot school based data gathering practices prior to the pilot study and given one day additional refresher training and testing practice before the main study.

The framework of the training was adapted from Early Grade Reading Assessment Toolkit prepared by RTI (RTI, 2009). In the first day of the training, discussions were held on the development process of the tests, the different components of the tests, nature and purposes of each test, procedures of administering each test and the roles and responsibilities of the tester, supervisor and students. In the second day a practical activity was carried out. The researcher and testers went out to Stadium Primary School in Hawassa, where the head of the school was requested and granted permission for the activity, and conducted an actual test with eight volunteer Grade Three students. The testers were given scoring sheets and asked to observe and rate each student's responses while the student was being tested by the researcher.

The testers observed all the eight students, scored responses and handed over the scoring sheets for the researcher. The researcher reviewed the scores given by each tester for the same observation, compared with his observation and performed an inter raters reliability tested to check how close the ratings were. In the third or final day of the training, discussions were held based on the practical data gathering activity and the results of the

inter rater reliability test substantiating with researcher's observation. After a week time the researcher and testers again went to the same school and retested the eight students following the same procedures. The data was used to further check the consistencies of the scores given by each tester for the same observation and also to observe the correlation between testers' scores given for the same observation during first and second round testing sessions.

4.7.2.6.2 Administering and Scoring Tests

As noted earlier, data for this study was gathered from Grade Three primary school students in four primary schools (i.e., two schools for the pilot and another two schools for the main study). The tests for both the pilot and main study were carried out by English language instructors ($N=2$) from university and colleges of teacher education who had prior experience in administering similar tests and also received hands on training from the researcher. Both the pre and posttests took place during school days, only in the morning shift for two consecutive days (i.e., one day per school) and similar producers were followed to administer and score the test in both occasions.

Prior to the test day, the researcher talked to the schools' directors and participating teachers in each participating school and arranged convenient day and test venues. Three separate quiet classrooms were prepared in each school for the test. Two of the classrooms were used for the test purpose (i.e., one per tester) and the remaining one classroom in each school was used to provide orientation, and keep the students together until the end of the test. This was done to avoid contacts among students who completed the test and those who were still waiting for their turn.

On the test day, prior to the test, participating students were given orientations about the purpose of the study and the type and procedures of the test. The researcher and the school principals confirmed to the students that the result of the test would not affect their school evaluation and would only be used confidentially for research purposes. The students were also told that if they did not want to take the test, they had the absolute right not to take it and could even interrupt during the test. Finally, each student was given an identification code and told to write her/his code and tell it to the tester before the start of the test.

All tests were conducted in one-to-one basis with instructions in Amharic. All items in the tests were administered orally, and the students did not see the copy of the score sheet for

the data. A sample item was given before each test to ensure the student understood what was expected of her/him. For the phonological awareness test, a sentence, word or phoneme was read out loud by the tester and the student was asked to segment, produce, blend, delete or substitute them verbally. If the student was unable to answer the first three words or if the student stayed more than three minutes to answer a single question, the tester would discontinue and move to the next sub

test. During the word recognition test, the student was given an A4 sheet of paper (i.e., children's stimuli sheet) with words arranged five in a row and asked to read the words out loud in order as best s/he could. The tester then started the stopwatch, marked incorrect words with a slash (/), placed a parenthesis (]) after the last word read, and noted the time remaining on the stopwatch. Each test was stopped after one minute and also before one minute if the student could not read a single word in the first row of the stimuli sheet. Finally, score sheets were collected by the researcher after each test for further statistical analysis. The test took one and half hours in the pilot and two hours in the main study.

For the phonological awareness test, one point was given to one item and the maximum score for each subtest was seven and the total PAT score was 77.

For the word recognition test, scores for each sub-test were calculated as the number of words the child read correctly per minute. The variables were: total number of words read, number of wrong words, time remaining on the stopwatch. These data points were used to determine the total number of correctly read words per minute. $CWPM = (Total\ Words\ Read - Total\ Wrong\ Words) / [(60\ Time\ Remaining) / 60]$. The maximum score in each subtest was 40 and the maximum total word recognition score was 120.

4.7.3 Reliability and Validity

The concept of reliability and validity is central when considering a research activity. According to Creswell, (2009), validity in general refers to the appropriateness of a given test or any of its component part as a measure of what it is supposed to measure. It is the quality which most affects the value of a test, prior to, though dependent on, reliability. However, validity is related to the content and construct of a test while reliability is related to the score. Various attempts were made in this research project including insights drawn from the pilot study to ensure the reliability and validity of the tests, the test administration procedures and the materials used. The following subsections cover these attempts.

4.7.3.1 Reliability

4.7.3.1.1 Test Re-test Reliability

When assessing basic reading skills, the quality and accuracy of the data collected is first determined by the reliability of the test as a measure. One way to ensure the reliability of the test as a data collection tool is to use standard tests. In this study, high-fidelity standard tests were adapted and used to collect data for both the pilot and main studies. Further a test retest reliability check was performed before the tests were used to gather the intended data. The test retest was conducted with eight Grade Three students at Stadium Primary School in Hawassa. The same test was given to the students in two rounds. The second round test was given after a week time following the same procedures by the same tester. Person's Moment Correlation Analysis was performed on the two round scores of the tests to observe if the tests could bear similar scores across different time. The result showed that there existed strong correlation between the pre and post- test mean scores both for the phonological awareness and the word recognition tests (See the scores from Appendix F).

4.7.3.1.2 Inter raters' Reliability

The second factor that determines the accuracy and quality of the data collected when testing basic reading skills is the reliability of the data collection process (RTI, 2012). One of the factors influences the procedure is the knowledge and skill of the tester. In this study, different activities were performed to ensure the quality and accuracy of the data gathered. First, a careful selection of testers was made. For this purpose, only teachers who attended the National English EGRA (2012) and had experience of EGRA testing were selected. Second, three-day training and school-based testing practices for the pilot study and one day refresher training and data gathering practice for the main study were conducted for the same testers prior to the pilot and main studies. Third inter- rater reliability tests were carried out on the data generated from the testing practice session (for the pilot study) and during testers' refresher training session (for the main study) and used to check the consistency of testers' scores for the same student.

The pre-pilot data collection or testing practice was held at Stadium Primary School, Hawassa, with eight volunteer Grade Three students. The testing practice was held twice. The same students were tested after a week time using the same test, by the same tester with the same procedures. Both testers were given scoring sheets and asked to score each student's responses individually while a student was being tested by the researcher. Each

tester observed and scored a total of eight students' responses and handed the scoring sheets to the researcher. The researcher reviewed the scores given by each tester for the same observation, compared results with his scores and performed an inter rater reliability test through Person's Moment Correlation Analysis and checked how close the scores were. The result showed that there were strong correlations between the testers' scores for both the phonological awareness and word recognition mean values both at pre and post-tests (See the inter- raters' reliability scores from Appendix G).

The data for checking the inter-rater reliability for the main study was generated during the testers' training. First, the testers were asked to observe and rate the responses of a colleague the researcher was testing. The researcher's and testers' score sheets were then compared to see how closely they agreed in their scores of the same observation. There were slight discrepancies among scores, particularly on Tester-1. Accordingly, discussions were held and appropriate feedback was given as to how the testers' scoring performance could be improved. Eventually, all testers received new scoring sheets and were invited to individually score the researcher's responses while being tested by a peer. The scoring results were then used to calculate the agreement of the scores given by each tester. The researcher then used Person's Moment Correlation Analysis to examine the extent to which the testers' scores correlate on the same observation and found strong correlation among the testers' scores for both the phonological awareness and the word recognition tests.

4.7.3.1.3 Reliability to the Intervention Activity

Treatment adherence was assessed by observing randomly chosen sessions and employing an independent rater observing the sessions with the researcher. A total of 14 sessions in the pilot study and 18 sessions in the main study were observed. Of these, 7 sessions in the pilot study and 10 sessions in the min study were observed with an independent rater. Researcher-developed checklist (See the Checklist from Appendix H) was used to monitor and assess sessions. The checklist was developed to measure the extent to which the teacher was implementing the session plan. The checklist had two sections. The first section contained a list of major activities for the teacher to undertake in each of the four phases of the intervention lesson. The second section had a yes-no categories. Observers were expected to tick yes if they observed the teacher's specific activity and tick no if they did not. The average scores from researcher and independent rater were used to determine

teacher's ability to deliver the training-based intervention lessons according to the session plans. Accordingly, the average overall adherence to treatment was found to be 92% ranging from 85% to 98% in the pilot and 90% ranging from 86% to 94% in the main study.

4.7.3.2 Validity

4.7.3.2.1 Test Validity

The face and content validity of the tests were checked through different ways before they were used for actual data collection. Initially, standard tests were selected from various sources and adapted to make them compatible with the current school curriculum and the MLCs set by the Ministry of Education for Grade Three. This was done to ensure that the content of the tests is appropriate for our local Ethiopian context. Next, the validity of the tests was improved by gathering feedback from experts. The tests were made available to the supervisors of the research project, an educational psychologist, an elementary school English teacher and two experienced EFL teachers from the university. They were informed about the aims of the study and received background information on the study participants. All expert comments have been duly noted and taken into account to improve the validity of the test. Additional feedback collected from the testers during testers' training and the researcher's own observations in the data collection activity prior to the pilot were also used to improve the validity of the tests.

4.7.3.2.2 Validity to Teaching and Training Materials

The preparation and validation of teaching and training materials was one of the main activities in this research project. According to the objectives and nature of the study, three different materials were designed and handed over to experts for validation. These were: 1) teaching material for students 2) training guide to train the teachers 3) guide for the teachers. Face and content validity of the materials was checked and improved using feedback from the research project supervisors, an educational psychologist, an elementary school English teacher and two experienced EFL teachers from the university. Experts were informed about the aims of the study and received background information on the study participants. After evaluating the materials, the experts strongly emphasized the need for the first two materials to be more practical. Furthermore, they also underlined the inclusion of training outcomes, as a good thing in making the second material a

sense/essence of a training manual. Accordingly, significant effort was made to address these key issues in order to achieve the intended goal of the training.

4.7.3.2.3 Experimental Validity

Experimental validity is a concept used to evaluate the quality of an experimental research. Experimental validity refers to the manner in which variables that influences both the results of the research and the generalizability to the population at large. In order to attribute differences in phonological awareness and word recognition achievement to the treatment, extraneous variables that may threaten the internal and external validity of the study had to be controlled (Creswel, 2009). The researcher of this study considered ways to control these threats when choosing the research design, planning methods, designing interventions materials and data gathering tools, conducting the experiment and gathering data for both the pilot and main studies. The following sub section deals with methods and procedures followed to control threats to the external and internal validity of the study.

4.7.3.2.3.1 Control over Threat to External Validity

External validity is the extent to which you can generalize the findings of a study to other situations, people, settings, and measures. One of the main threats to external validity of a study is sampling bias. Sampling bias is not the differences between the sample and the population due to chance, but is a result of the research design (Creswel, 2009).

In this study, participant schools and students were two sources of sampling bias that must be addressed. First the experiment was conducted in two different public primary schools (i.e., one control and another experimental school) and this could be a threat to external validity of the study. Two important steps were followed to control over this threat and select comparable schools in terms of students' socio economic backgrounds, school resources and grade three English teachers' profiles. Accordingly, first information about the levels of the schools was collected from the Hawassa City Administration Education Department and two schools with the same level were selected. Further schools observations were made in the two schools and interviews were held with school heads to gather information about the variables mentioned so far.

Another source of sampling bias was working with two Grade Three sections from two schools. In this study, the schools have already randomly assigned students to sections. However, although equal numbers of high, medium, and low achieving and equal numbers of special needs students were assigned to each section, homogeneity could not be

assumed. Since the homogeneity of the groups (sections) could not be guaranteed, pre-test was conducted to collect data and the data was statistically analyzed to consider initial difference in the dependent variables of the study in the participating students in the two sections before the sections were randomly assigned to each group (i.e., control and experimental).

4.7.3.2.3.2 Control over Threats to Internal Validity

Internal validity refers specifically to whether an experimental treatment/condition makes a difference or not, and whether there is sufficient evidence to support the claim. Attention was given to extraneous variables that would threaten the validity of the study in order for the research study to adequately answer the questions posed. Creswell (2009) identified threats to the internal validity of research study which are addressed for this research project.

First, control over the introduction of extraneous materials or methods of teaching were required in order to attribute the results to the method of teaching reading. The teachers in experimental group were guided by the session plans prepared for this purpose, compiled in a manual and provided to them. In addition, teachers in experimental group participated in five days long training workshop where they became knowledgeable in the research basis of the study and became familiar with the teaching materials used in the twelve weeks pilot and sixteen week main study intervention program. The teacher in the control group was also given two days training on methods of teaching basic reading skills (only in the main study). Additional on-site discussions with the teachers and classroom observations of selected sessions occurred during the period of the intervention training in order to ensure compliance with the teaching strategies and methods developed. The teachers also kept brief records of their progress through as self-reflection format integrated with each lesson plan.

There was also the threat of contamination through compensatory equalization, compensatory rivalry, and resentful demoralization due to the interaction among the teachers (Creswell, 2009). The treatments could have been diluted through the equalization of methods used, producing contamination of the control group. Compensatory rivalry or resentful demoralization occurs when one group perceives that one treatment is less desirable than another. In order to control that threat to validity, the researcher carefully designed the study and made participating students and teachers be from two different

schools where one of the schools was experimental and the other control. In doing so, the teachers conducting the experiment and students in the experimental groups were reframed from discussions of the treatment with the other control group teachers and students.

Another potential threat to the internal validity of the study was the selection of a poor instrument to measure the results of the study. For that reason, two tests were selected, modified, checked for reliability and validity and used to gather data for this study. These tests required individual administration and therefore two testers with prior testing experiences were chosen and given trainings. Further an inter raters reliability was also used to check consistencies between testers' scores prior to the actual data gathering.

In order to diminish the effects of the presence of the researcher in the classroom with the students, the researcher visited the classrooms both before and during the study.

4.8 Ethical Issues

Informed consent to conduct this study was obtained from the city administration education department, and informed consent to participate in the study was obtained from teachers, children, and children's parents or guardians. Prior to the test, participating children were given orientations about the purpose of the study and the type and procedures of the test. The researchers and the school principal confirmed to the children that the result of the test will not affect their school evaluation and will only be used confidentially for research purposes. The students were also told that if they did not want to take the test they had the absolute right not to take it and could even interrupt during the test. Finally, each child was given an identification code and told to write her/his code and tell it to the assessor before the start of the test. This was done to ensure anonymity of the participating students and confidentiality of the test result.

4.9 Methods of Data Analysis

There are a number of statistical tools available to analyze a research data. The type of a statistical test a researcher uses depends on a number of factors. According to (Creswell, 2009), the statistical test to be used in a particular research depends on factors such as the scales of data being analyzed, sampling technique employed and the number of groups in the sample including their types and the purpose of the research.

There are two common types of statistical tests or techniques: parametric and non-parametric. Both of them have their own assumptions, features, purposes and procedures

(Creswell, 2009). As mentioned in the earlier section of this paper, the design of the present study was pre-test-intervention- post-test control group experimental design. The design allows conducting repeated measurements on two randomly selected and assigned independent (unrelated) groups at different times of the study. The type of data collected for this study was continuous data gathered through tests. Thus, the type of sample used and nature of data collected required the use of parametric statistical tool for the data analysis of this study.

Among the different parametric tests, it is a t-test that was found appropriate for the present study due to its suitability to compare and measure the effect of the independent variable on the dependent variables of the study. Both independent samples t-test and paired samples t-tests were used to analyze the data. First, an independent-sample t-test was performed to examine whether there were statistically significant differences between the experimental and control groups both before and after the intervention on each of the study's specific objectives. Then a paired-sample t-test was used to measure the effects of the intervention (changes from pretest to posttest) on both the experimental and control groups. The effect size of the intervention was also calculated for all measurements using Cohen's d with pooled standard deviation. The criterion defined by Cohen (1988), $d \geq 0.2$ is a small effect, $d \geq 0.5$ is a medium effect and $d \geq 0.8$ is a large effect, was used to interpret the magnitude of the effect.

To look into the phonological awareness sub skill that predict students' word recognition outcomes, Linear Model Regression Analysis were conducted with the data collected from tests.

The statistical data was analyzed by the SPSS Package Version 26. An alpha level was set before analyzing the data. The most commonly used levels of significance (alpha) in educational research are .05 and .01 (Creswell, 2009). The decision is determined by the potential consequences of committing a Type I or a Type II error. A Type I error is rejecting a null that is, in fact, true; a Type II error is retaining a null that is, in fact, false. In this study the larger alpha of .05 has been chosen because the probability of a Type II error could result in a decision not to use a method that would, in fact, benefit students.

4.10 The Pilot Study

The pilot study had two main objectives. The first objective was to try out the research tools used and the teaching and training material prepared for this study. The second was to use the results of the pilot study as a springboard for conducting the main study of this research.

4.10.1 Setting and Participants

The data for this study were generated from grade three students learning in two public primary schools in Hawassa. All of the students in this study spoke their native language at home. The parents of these children are mostly lower or lower-middle class citizens who would not communicate with their children in English at home. In general, children were only exposed to English at school in English classes. The average mean age of students was 10 years old. There were two participating teachers, one for each group that came from the two different schools. The teachers had English diplomas and were studying for their B.Ed. degrees in the part- time summer program. The mean teaching experience of the teachers was 12 and 13 years respectively.

4.10.2 Sampling Technique and Procedures

According to information from the Hawassa City Education Department, as of the 2021-22 school years, there were 22 public (government) primary schools in and on the outskirts of Hawassa. Of the 22 government schools, two schools were selected for the pilot using a purposive sampling technique. This technique was chosen to carefully select the participating schools, to ensure that the schools are comparable. Accordingly, Nigist Fura and Tabor Primary Schools were selected for the pilot study. These schools were comparable in terms of resources and teacher profiles, and consisted of large numbers of children from families with low socioeconomic backgrounds.

Two English language teachers one from each participating school were selected through comprehensive sampling technique as there number was limited (there was only one teachers teaching English for grade three students in each the participating school).

Sample students were selected from each participating school using random sampling techniques. Classes or sections were used as the unit of randomization and one grade three section was randomly selected from each participating school. There were four grade three sections in the morning shift in Nigist Fura Primary School and four grade three sections in

Tabor Primary School in the morning shift. Among these sections, section 3 B from Nigist Fura and section 3C from Tabor were randomly selected. A pre-test was conducted to examine the initial phonological awareness and word recognition performances of the students in the selected sections before the sections were assigned to experiment and control groups. Results were analyzed using an independent sample t-test statistical analysis. The result showed that there were no statistically significant differences in the phonological awareness and word recognition performances of the students in the two sections. Then the sections were randomly assigned to experimental and control groups. Accordingly, the section in Nigist Fura Primary School was assigned to the experimental group, and the section in Tabor Primary School to the control group. The subjects that have been involved in the pilot study were 70, 35 students in the experimental group and 35 students in the control group.

The intervention was conducted for 12 weeks in Nigist Fura Primary School during the second semester of 2020/21 or 2013 (EC) academic year. It was carried out in every opposite shift of the students' school program using teaching lessons and materials prepared for the experimental group.

4.10.3 Research Methods

4.10.3.1 The Experiment

4.10.3.1.1 Lessons Taught

As discussed in the previous section, the students in the control group were taught basic reading skills using the actual word study lessons from the students' existing textbook, while the lessons for the experimental group were designed based on 200 monosyllabic word families containing 37 common rime units compiled by Wylie and Durrell (1970); *ack, ake, all, ale, an, ame, ain, ank, ap, ash, at, ate, aw, ay, eat, ell, est, ice, ick, ight, ill, ide, in, ine, ing, ip, ink, it, ock, op, oke, ore, ot, uck, ug, unk* and *ump*. A total of 36 lessons of 40 minutes each were prepared and used to teach the experimental group students. Nine of the lessons were prerequisite lessons aimed at teaching letter-sound correspondences, the way how to blend individual phonemes to read words, word-initial consonants including blends and diagraphs, and rhyming and alliteration of words. The remaining 27 lessons were part of the main intervention lessons. The goal of these lessons was to help the children thoroughly learn the orthographic and phonological features of the rimes and keywords included in each lesson and use them as a basis to read new words by analogy.

The rime units and keywords were placed on the word wall as they were introduced, fully analyzed and practiced in each session.

4.10.3.1.2 Classroom Teaching Methodology

The control group students stayed in their regular classroom with their regular word study and vocabulary lessons from Grade Three textbooks. The experimental group students received additional intervention lessons for 12 weeks, 40 minutes long, three days a week (Monday to Wednesday), with a total teaching time of 24 hours. The intervention was conducted by the Grade Three classroom English teacher who was trained by the researcher prior to the intervention. The teacher was encouraged to conduct the training mainly in English and to use the students' native languages when the students could not understand the instructions and concepts. During the intervention, the researcher met with the teacher twice a week to review the students' progress, clarify learning outcomes, and collect the teacher's comments on the program.

In the experimental group, the teaching was conducted with a participatory approach. The teacher first demonstrated the activity, then conducted activities with the students, and finally had the students conduct activities themselves. Various multi-sensory activities (e.g. games, tongue twisters, songs) were used to model and practice the activities. At the beginning of each session, goals were set and times and keywords from the previous session were analyzed orally. Rimes and session keywords were introduced, their pronunciation modeled, and the words onset, rhyme, and vowel(s) identified to describe the word parts. Also, rhyming words were generated and listed with the keywords, keywords were selected and analyzed with a word analysis template, and spelling of words was practiced with the Elkonin Box.

4.10.3.2 Data Gathering Tools /Measurements

In the pilot study, a pre-test was given before the experiment began for both the control and the experimental groups. After the students in the experimental group were taught for twelve weeks again both groups were given a post test in the twelfth week in order to see if there was any significant difference in the phonological awareness and word recognition outcomes of the control and experimental groups.

4.10.3.2.1 Pre-test

The main objective of the pre- test was to find out if there was any significant difference in phonological awareness and word recognition outcomes between the experimental group

and the control group before the intervention. The pre-test took one hour and thirty minutes for the pilot study.

4.10.3.2.2 Post-test

In the pilot study, a post-test was given in order to find out if there was any significant difference between the control and the experimental group in their phonological awareness and word recognition outcomes at the end of the intervention. The same test as the pre- test was used in the post test. Similarly, the post-test took one hour and thirty minutes for the pilot study.

4.11 The Main Study

The main purpose of this study was to determine if there was a significant difference in the phonological awareness and word reading outcomes among third-grade students at the end of sixteen weeks who were taught early literacy or basic reading skills using:

1. word study and vocabulary activities with an explicit rime based phonics method.
- 2 . word study and vocabulary activities not in explicit rime based method.

Furthermore, the study was intended to test the hypotheses noted in Chapter 1.

4.11.1 Setting and Participants

The main study was conducted in two public primary schools, Ethiopia Tikdem and Haiq Primary schools in Hawassa.

As mentioned above, two public primary schools were chosen for the main study. In Ethiopia Tikdem Primary School, there were four third-grade sections. From the four sections, the 3-D section was randomly selected. Similarly, in Haiq Primary School, there were four third-grade sections and Section 3-B was chosen at random. 107 students participated in the main study. 56 students were from Ethiopian Tikidem Primary School and 51 students were from Haiq Primary School.

Participating students were pre-tested to see if there was a significant difference in phonological awareness and word recognition abilities before the intervention. Scores were analyzed using independent-sample statistical t-test analysis. The result showed that there was no significant difference between the two sections' achievements in all measures of phonological awareness and word recognition. Then the sections were randomly assigned to experimental and control groups. Accordingly, the section in Haiq Primary School

became the experimental group and the section in Ethiopia Tikidem Primary School became the control group.

4.11.2 Research Methods

4.11.2.1 The Experiment

In this research project, the main method used was experiment. An experiment was conducted to investigate whether or not intervention in explicit rime-based phonics method improves students' outcomes in phonological awareness and word recognition.

4.11.2.1.1 Lessons Taught

As discussed in previous section, the students in the control group were taught basic reading skills using the actual word study and vocabulary lessons from the students' existing textbooks as revision, while the lessons for the experimental group were designed based on 200 monosyllabic word families containing 37 common rime units compiled by Wylie and Durrell (1970); *ack, ake, all, ale, an, ame, ain, ank, ap, ash, at, ate, aw, ay, eat, ell, est, ice, ick, ight, ill, ide, in, ine, ing, ip, ink, it, ock, op, oke, ore, ot, uck, ug, unk and ump*. A total of 46 lessons of 40 minutes each were prepared and used to teach the experimental group students. Nine of the lessons were prerequisite lessons aimed at teaching letter-sound correspondences, the way how to blend individual phonemes to read words, word-initial consonants including blends and diagraphs, and rhyming and alliteration of words. The remaining 37 lessons were part of the main intervention lessons. The goal of these lessons was to help the students thoroughly learn the orthographic and phonological features of the rimes and keywords included in each lesson and use them as a basis to improve their phonological awareness and word reading performances. Each rime unit and keywords were placed on the word wall as they were introduced, fully analyzed and practiced in each session.

4.11.2.1.2 Classroom Teaching Methodology

This research project required an additional hour teaching in the opposite shift. The teachers taught for forty minutes three times a week for sixteen weeks (a total of about 32 hours) using the session plan prepared for each lesson for the experimental group and the students' textbooks for the control group. The intervention was conducted by the third grade English teachers who were trained by the researcher prior to the intervention. Teachers were encouraged to conduct the training primarily in English and to use the students' native languages when the students could not understand instructions and

concepts. During the intervention, the researcher met with the teacher twice a week to review the students' progress, clarify learning outcomes, and collect the teachers' comments on the program.

In the control group, the lessons were mainly presented through explanations, modeling, memorization, repetition and translation by the teachers. However, in the experimental group, the teaching was conducted with a participatory approach. The teacher first demonstrated the activity, then conducted activities with the students, and finally had the students conduct activities themselves. Various multi-sensory activities (e.g. games, tongue twisters, songs) were used to model and practice the activities. At the beginning of each session, goals were set and times and keywords from the previous session were analyzed orally. Rimes and session keywords were introduced, their pronunciation modeled, and the words onset, rhyme, and vowel(s) identified to describe the word parts. Also, rhyming words were generated and listed with the keywords, keywords were selected and analyzed with a word analysis template, and spelling of words was practiced with the Elkonin Box.

4.11.2.1.3 Data Gathering Tools/Measurement

In the main study, a pre-test was given before the intervention began for both the control and the experimental groups. After the students in the experimental group were taught basic reading skills for sixteen weeks using the word study and vocabulary lessons with an explicit rime-based phonics method, the control group was taught using word study and vocabulary lessons of the Grade Three textbook not in explicit rime based method again both groups were given a post- test in the sixteenth week in order to see if there was any significant difference in the phonological awareness and word recognition outcomes of the control and experimental groups.

4.11.2.1.3.1 Pre-test

The main objective of the pre- test was to find out if there was any significant difference in phonological awareness and word recognition abilities between the experimental group and the control group before the intervention. The pre-test took two hours for the main study.

4.11.2.1.3.2 Post-test

In the main study, a post-test was given in order to find out if there was any significant difference between the control and the experimental group in their phonological awareness and word recognition outcomes at the end of the intervention. The same test as the pre- test was used in the post -test. Similarly, the post-test took two hours for the main study.

CHAPTER FIVE

RESULTS, ANALYSIS AND DISCUSSION

5.1 Introduction

The main objective of this study was to test whether an explicit rime based phonics method enhances students' phonological awareness and word recognition outcomes. In this Chapter, results from tests are presented and analyzed under the auspices of the research objectives and hypotheses. Further discussion is made on the results of the pilot and main studies.

5.2 The Pilot Study

As mentioned in Chapter 4, the pilot study required an extra hour of teaching in the opposite shift of the experimental group students. The teacher had to conduct 40 minutes teaching three times a week (a total of about 24 hours) for 12 weeks by using the word study and vocabulary lessons designed and presented with an explicit rime based phonics method. The control group was taught basic reading skills using the word study and vocabulary lessons from Grade Three textbooks in their regular classroom. These activities were not presented through an explicit rime based phonics method.

5.2.1 Results

As indicated earlier, in the pilot study, a pre-test was administered before the beginning of the intervention to the students both in the control and experimental groups. After the students in the experimental group were taught for twelve weeks, again both students in the control and experimental groups were given a post-test at the end of the intervention to see if there was any significant difference in phonological awareness and word recognition outcomes of the control and experimental groups. The researcher took only the test results of 67 students because the remaining students did not take the post-test. The section examines the pre-and the post-test results of the pilot study and their possible implications.

5.2.1.1 Between Group Comparisons of Improvement

The total and subtests mean scores of the two groups were used to compare the phonological awareness (PAT) and word recognition improvements between the groups. An independent samples t-test was employed to determine if improvements were statistically significant for each category. The following sections provide the results of the comparison.

5.2.2.1.1 An Independent Samples t-test Results of Phonological Awareness

The mean values and results of the independent samples t-test for all the subtests and the total phonological awareness in the experimental and control groups at posttest are given in Table 1 below.

Table 1: Phonological Awareness Test (PAT) results of the independent samples t-test for the experimental and control groups in the pilot study (posttest)

Sub-tests	Posttest						
	Experimental N=33		Control N=34		T	df	Sig. (2- tailed)
	M	SD	M	SD			
Sentence segmentation	5.06	1.02	3.55	1.07	5.83	65	.000
Rhyme recognition	4.63	.96	2.73	.66	9.42	65	.000
Rhyme production	4.60	.74	2.38	.55	13.88	65	.000
Rime segmentation	4.57	.70	2.44	.50	14.17	65	.000
Rime blending	5.30	4.92	2.61	.65	3.10	65	.004
Phoneme segmentation	4.75	1.45	3.70	.97	3.48	65	.001
Phoneme blending	5.39	1.76	2.94	1.59	5.96	65	.000
Initial phoneme deletion	4.30	1.72	2.26	1.33	5.40	65	.000
Final phoneme deletion	4.63	1.72	1.97	1.38	6.96	65	.000
Initial phoneme substitution	4.51	1.82	1.85	1.47	6.57	65	.000
Final phoneme substitution	4.81	1.82	2.29	1.58	6.02	65	.000
Total	52.60	12.71	28.76	8.21	9.14	65	.000

As shown in the above table, the mean total PAT scores were 52.60 (SD = 12.71) for the experimental group and 28.76 (SD = 8.64) for the control group. The result revealed that there existed difference for all subtest scores and the total PAT scores between the two groups indicating that the experimental group scored higher than the control group. The result of independent sample t-test indicated that the differences were statistically significant at $p < \alpha$ level (.000). For sentence segmentation, $t(65)=5.83$, $p < 0.05$, Cohen's $d = 1.45$, for rhyme recognition, $t(65)=9.42$, $p < 0.05$, for rhyme production, $t(65)=13.88$, $p < 0.05$, for rime segmentation, $t(65)=14.17$, $p < 0.05$, for rime blending, $t(65)=3.10$, $p < 0.05$, for phoneme segmentation, $t(65)=3.48$, $p < 0.05$, for phoneme blending, $t(65)=5.96$, $p < 0.05$, for initial phoneme deletion, $t(65) = 5.40$, $p < 0.05$, for final phoneme deletion, $t(65) = 6.96$, $p < 0.05$, for initial phoneme substitution, $t(65) = 6.55$, $p < 0.05$, for final phoneme substitution, $t(65) = 6.02$, $p < 0.05$, and for the total PAT, $t(65) = 9.14$, $p < 0.05$. The result showed that the students in the experimental group, who was taught basic reading skills using word study and vocabulary activities in explicit rime based

phonics method achieved a significant improvement in their phonological awareness at rhyme, rime and phoneme levels over the course of the intervention period than the control group, who learned basic reading skills using the word study and vocabulary lessons not in explicit rime based phonics method. This implies that the intervention in explicit rime-based phonics method could improve students' achievement in phonological awareness at rhyme, rime and phoneme levels significantly than the conventional instruction.

5.2.2.1.2. An Independent Samples t-test Results of Word Recognition

The mean values and results of an independent samples t-test for both groups at posttest are given below.

Table 2: Word Recognition Test results of the independent samples t-test for the experimental and control groups in the pilot study (posttest)

Sub-tests	Experimental Group N=33		Control Group N=34		t	df	Sig.(2- tailed)
	Mean	SD	Mean	SD			
Instructed words reading	27.66	11.48	13.47	7.27	6.02	65	.000
Invented words reading	24.03	10.09	13.17	6.67	5.17	65	.000
Novel words reading	25.84	10.65	13.35	6.87	5.68	65	.000

As shown in Table 2 above, the mean scores of word recognition for the experimental group for all tests were higher than those for the control group. The results of the independent-sample t-test showed that this difference was statistically significant at $p < 0.05$, indicating that the experimental group made greater progress than the control group in reading instructed words $t(65) = 6.02$, $p = 0.000$, reading invented words $t(65) = 5.17$, $p = 0.000$ and reading novel words, $t(65) = 5.68$, $p = 0.000$.

5.2.2.2 Within Group Comparisons of Improvement

Pre and posttest mean scores were used to compare improvements in students' phonological awareness and word recognition outcomes in each group (experiment and control) and identify changes over the course of the intervention period. Paired-sample t-test was employed to determine whether the changes (improvements) were statistically significant. Results are presented below.

5.2.2.2.1 A Paired Sample t-test Results of Phonological Awareness

The comparison values for improvements within the experimental and control groups are given in the tables below.

Table 3: Results of paired samples t-test for phonological awareness test in the experimental group (pilot study)

Sub-tests	Pre-test		Post-test		t	df	Sig. (2-tailed)
	Mean	SD	Mean	SD			
Sentence segmentation	3.18	.72	5.06	1.02	-10.87	32	.000
Rhyme recognition	3.00	.66	4.63	.96	-8.66	32	.000
Rhyme production	2.54	.61	4.60	.74	-12.68	32	.000
Rime segmentation	2.63	.65	4.57	.70	-14.13	32	.000
Rime blending	2.72	.45	5.30	4.92	-3.05	32	.005
Phoneme segmentation	3.81	.84	4.75	1.45	-5.40	32	.000
Phoneme blending	3.00	.93	5.39	1.76	-9.44	32	.000
Initial phoneme deletion	2.18	1.64	4.30	1.72	-12.68	32	.000
Final phoneme deletion	2.48	1.87	4.63	1.72	-11.61	32	.000
Initial phoneme substitution	2.15	1.85	4.51	1.82	-10.29	32	.000
Final phoneme substitution	2.03	1.35	4.81	1.82	-11.94	32	.000
Total	29.75	8.86	52.60	12.71	-15.74	32	.000

According to the result in Table 3, there was a difference in all subtests and the PAT total mean scores from pre-to posttest, indicating that the experimental group showed improvement in phonological awareness outcomes at word, rhyme, rime and phoneme levels. The result of paired samples t-test indicates that the change was statistically significant for all categories (at $p < .000$) and the Cohen's d showed that magnitude of the intervention effect was large for all categories. For sentence segmentation, $t(32) = -10.87$, $p < .05$, Cohen's $d = 2.12$, for rhyme recognition $t(32) = -8.66$, $p < .05$, Cohen's $d = 1.99$,

for rhyme production, $t(32)=-12.68$, $p<0.05$ Cohen's $d = 3.03$, for rime segmentation, $t(32)=-14.13$, $p<0.05$, Cohen's $d = 2.87$, for rime blending, $t(32)=-3.05$, $p<.005$, Cohen's $d = 0.73$, for phoneme segmentation, $t(32)=-5.40$, $p<0.05$, Cohen's $d = 0.79$, for phoneme blending, $t(32)=-9.44$, $p<0.05$, Cohen's $d = 1.69$, for initial phoneme deletion, $t(32)=-12.68$, $p<0.05$, Cohen's $d = 1.26$, for final phoneme deletion, $t(32)=-11.61$, $p<0.05$, Cohen's $d = 1.19$, for initial phoneme substitution, $t(32)=-10.29$, $p<0.05$, Cohen's $d = 1.47$, for final phoneme substitution, $t(32)=-11.84$, $p<0.05$, Cohen's $d = 1.70$ and for the total PAT, $t(32)=-15.74$, $p<0.05$, Cohen's $d = 2.08$. This suggests that teaching basic reading skills in explicit rime based phonics method could significantly improve the phonological awareness outcomes of Ethiopian primary school students.

Table 4: Results of paired samples t-test for word recognition in the control group (pilot study)

Sub-tests	Pre-test		Post-test		t	df	Sig. (2-tailed)
	Mean	SD	Mean	SD			
Sentence segmentation	3.38	.95	3.55	1.07	-1.43	33	.160
Rhyme recognition	2.82	.83	2.73	.66	.77	33	.447
Rhyme production	2.55	.70	2.38	.55	1.18	33	.245
Rime segmentation	2.38	.49	2.44	.50	-.81	33	.422
Rime blending	2.55	.61	2.61	.65	-.70	33	.488
Phoneme segmentation	3.76	1.12	3.70	.97	.57	33	.571
Phoneme blending	3.00	1.01	2.94	1.59	.32	33	.744
Initial phoneme deletion	2.17	1.52	2.26	1.33	-.90	33	.374
Final phoneme deletion	1.88	1.49	1.97	1.38	-1.00	33	.325
Initial phoneme substitution	1.73	1.48	1.85	1.47	-1.07	33	.292
Final phoneme substitution	2.05	1.47	2.29	1.58	-1.60	33	.118
Total	29.75	8.18	28.76	8.21	-.876	33	.387

The result in the above table (see Table 4) shows that the mean score difference in all subtests and the total PAT from pre- to post-test for the control group was small. The results of paired samples t-test revealed that the change (improvement) was not statistically significant at $p > 0.05$. And the Cohen's d indicated that the effect size of the intervention in the control group was small for all categories. For sentence segmentation, $t(33) = -1.60$, $p > 0.05$, Cohen's $d = 0.16$, for rhyme recognition, $t(33) = .77$, $p > 0.05$, Cohen's $d = 0.13$, for rhyme production, $t(33) = 1.18$, $p > 0.05$, Cohen's $d = 0.27$, for rime segmentation, $t(33) = -.81$, $p > 0.05$, Cohen's $d = 0.12$, for rime blending, $t(33) = -.70$, $p > 0.05$, Cohen's $d = 0.10$, for phoneme segmentation, $t(33) = .57$, $p > 0.05$, Cohen's $d = 0.05$, for phoneme blending, $t(33) = .32$, $p > 0.05$, Cohen's $d = 0.04$, for initial phoneme deletion, $t(33) = -.90$, $p > 0.05$, Cohen's $d = 0.06$, for final phoneme deletion, $t(33) = -1.00$, $p > 0.05$, Cohen's $d = 0.05$, for initial phoneme substitution, $t(33) = -1.07$, $p > 0.05$, Cohen's $d = 0.15$, for final phoneme substitution, $t(33) = -1.60$, $p > 0.05$, Cohen's $d = 0.12$ and for the total PAT, $t(33) = -.876$, $p > 0.05$, Cohen's $d = 0.21$. This implies that the conventional way of teaching basic reading skills helps little to improve the phonological awareness achievements of Ethiopian primary school students.

5.2.2.2.2 A Paired Sample t-test Results of Word Recognition

Table 5: Results of paired samples t-test for word recognition in the experimental group (pilot study)

Sub-tests	Pre-test		Post-test		t	df	Sig. (2-tailed)
	Mean	SD	Mean	SD			
Instructed words reading	14.36	9.91	27.66	11.48	-13.78	32	.000
Invented words reading	12.54	6.73	24.03	10.09	-15.03	32	.000
Novel words reading	13.66	8.61	25.84	10.65	-16.36	33	.000

According to the result in Table 5, there was a difference in the mean scores of all tests, with the experimental group showing improvement from pre- to posttest. The result of paired samples t-test showed that the difference was statistically significant at $p < 0.05$, $t(32) = -13.79$, $p = 0.000$ for reading instructed words, $t(32) = -15.03$, $p = 0.000$ for reading learned words and $t(32) = -16.36$, $p = 0.000$ for reading novel words, respectively.

Table 6: Results of the paired samples t-test for word recognition in the control group (pilot study).

Sub-tests	Pre-test		Post-test		t	df	Sig. (2-tailed)
	Mean	SD	Mean	SD			
Instructed words reading	13.05	7.30	13.47	7.27	-1.60	33	.119
Invented words reading	13.11	6.54	13.17	6.67	-.57	33	.571
Novel words reading	13.20	7.05	13.35	6.86	-1.30	33	.201

As shown in Table 6, the improvement in the mean scores from pre to posttest in the control group was small. The paired samples t-test result indicated that the change was not statistically significant for all tests at $p > 0.05$ level, $t(33) = -1.60$, $p = 0.11$ for reading of instructed words, $t(33) = -0.57$, $p = 0.57$ for reading invented words and $t(33) = -1.30$, $p = 0.20$ for reading new words, implying that the control who taught basic reading skills in the conventional way showed little improvement in all word recognition measurements.

5.3 Insights Drawn from the Pilot Study

This section presents a discussion on the insights drawn from the pilot study and their implications for the main study. The important lessons gained may be summarized as follows:

- i. As noted in Chapter 4, the main objective of the pilot study was to try out the research design selected, teaching material prepared, the research tools chosen and the experimental procedures followed to conduct the main study of this research project. In the pilot study, the teacher in the experimental group was given training and she provided an extra hour teaching for the experimental group students. The control group teacher did not receive training and the control group students were not provided with extra hour instruction. This might affect the internal validity of the experiment. The control group teacher had to be also given training with some aspects of the research variables and the control group students had to be given an equal number of extra hours of instruction with a different material in the main study.

- ii. Two sets of oral tests a) a test of phonological awareness with 11 subtests and, b) a test of word recognition with three subtests were orally administered to the students in the pilot study. Almost all of the students were not familiar with an oral test. This created some sort of ambiguity and frustration on the students especially at the beginning stage of the pretest session and put extra load on the testers. It was observed that the orientation given to the students before the test was not sufficient. Therefore a well-organized orientation session with practical examples had to be designed and provided for the students in the main study.
- iii. The first subtest of the phonological awareness test, sentences segmentation, was dropped as it had no relation with the research objectives. In addition, some of the items which the students failed to respond to clearly were dropped in the main study. For instance, in phoneme segmentation subtest words like *fail* was dropped because it contained diphthongs that the students found difficult to identify.
- iv. Students did not find some of the terminologies (e.g. phonemes, initial/final phoneme deletion and phoneme substitution) used by the testers in the test familiar enough. Thus, these words had to be replaced by more familiar terms (e.g. sounds, the sound in the first/last sound in a given word) in the main study.
- v. Students did not easily understand some instructions given by a particular tester. They often asked for clarifications and repetitions before responding to the questions. The testers had to be given additional training and practice opportunities before conducting the test in the main study.
- vi. During classroom observation, it was observed that most students required extra time to complete the word analysis and spelling activities with the Elkonin Box especially in the first two to three weeks. Therefore some activities e.g., orthographic phonemic link had to be started after the third week of the intervention and extra time had to be provided to the two activities in the main study.
- vii. The other finding from the pilot study related to teachers and students motivation. In addition to the professional remuneration, for example, an official recognition of the teachers' effort by the school's head and supervisor increased their motivation. Rewarding students with simple materials such as pens, stickers, books, etc. for their attendance and participation had positive implications for the intervention. Hence these issues had to be also considered in the main study.

5.4 The Main Study

5.4.1 Introduction

The main purpose of this study was to determine if there was a significant difference in the phonological awareness and word recognition outcomes among Grade Three EFL students at the end of 16 weeks who were taught basic reading skills using:

1. word study and vocabulary activities with an explicit rime based phonics method.
- 2 . word study and vocabulary activities not in explicit rime based method.

Moreover this study sought to test the null and alternative hypotheses as noted in Chapter 1.

As reported in Chapter 4, two primary schools were selected for the main study: Ethiopian Tikidem Primary School and Haiq Primary School, and a third grade section of each school was randomly selected. Two English teachers, one from each school, participated in the study. The main study required an additional hour of instruction in the opposite shift of the experimental and control group students. The teachers had to conduct 40-minute classes three times a week for 16 weeks (a total of about 32 hours) using the materials prepared for the experimental group and the students' textbooks for the control group.

In the main study, before the start of the intervention, students in both the control and experimental groups were pre-tested. After students had been tutored for 16 weeks, both groups received a post-test again at the end of the intervention to determine if there was a significant difference in phonological awareness and word recognition outcomes between the control and experimental groups. The researcher only took the test results from 92 students because the remaining students did not take the pre-test or the post-test.

5.4.2 Results and Discussion

The mean scores of the pre- and post-tests were used for further statistical analysis (i.e. the mean raw scores of the control and the experimental groups pre- and post-tests are in Appendix I Tables 1&2 for Ethiopia Tikdem and Tables 3&4 for Haiq). Independent samples t-tests, paired-samples t-test and Linear Regression Analyses were employed using SPSS version 26 and the results are presented below, followed by a discussion of the results and their possible implications.

5.4.2.1 Results

Students' mean scores were used to test the effects of the independent variable of method, on outcomes of phonological awareness at rhyme, rime and phoneme levels and word recognition measured through reading learned words, invented words and novel or non-instructed words between the experimental and control groups. An independent samples t-test was employed to determine whether the effects were statistically significant and also test the hypotheses. Then a paired-sample t-test was used to deduce if the independent variable of method had statistically significant effects on outcomes of independent variables within the experimental and control group separately. Since a paired samples t-test does not tell us the effect size of the intervention, further statistical analysis was performed using Cohen's d with pooled standard deviation. The criterion defined by Cohen (1988), $d \geq 0.2$ is a small effect, $d \geq 0.5$ is a medium effect and $d \geq 0.8$ is a large effect, was used to interpret the magnitude of the effect. To measure the predictive power of the phonological awareness sub skills on students' word recognition outcomes, a Linear Regression Analysis were conducted.

5.4.2.1.1 Between Group Comparisons of Improvement

The mean post-test scores of students in the experimental and control groups were compared to identify improvements in students' phonological awareness and word recognition scores. An independent-sample t-test was performed to determine whether there were statistically significant differences between the means of two measures administered at different stages of the intervention (before and after the intervention) and the improvements between the two groups. The results are shown below.

5.4.2.1.1.1 An independent Samples t-test Results of Phonological Awareness

The results of the independent samples t-test for phonological awareness are detailed in Table 7. Hypotheses a, b and c will be discussed from this table.

Table 7: The phonological awareness test results of independent samples t-test for the experimental and control groups in the main study (posttest)

Sub-tests	Post-test						
	Control group		Experimental group		t	df	Sig. (2-tailed)
	M	SD	M	SD			
Rhyme Awareness							
Rhyme recognition	2.65	1.11	3.64	1.46	-3.64	90	.000
Rhyme production	1.61	.78	2.43	.98	-4.45	90	.000
Total - Rhyme awareness	4.34	1.72	6.08	2.25	-4.17	90	.000
Rime Awareness							
Rime segmentation	1.77	.85	2.83	1.15	-5.98	90	.000
Rime blending	2.43	.72	3.93	1.09	-7.80	90	.000
Total -Rime awareness	4.06	1.12	6.77	1.89	-8.39	90	.000
Phonemic Awareness							
Phoneme segmentation	1.90	.69	2.70	1.09	-4.03	90	.000
Phoneme blending	2.50	.95	2.66	.69	-4.62	90	.000
Initial phoneme deletion	1.72	.81	2.45	1.11	-4.44	90	.000
Final phoneme deletion	1.86	1.0	2.72	1.10	-4.45	90	.000
Initial phoneme substitution	1.50	.76	2.41	.89	-6.03	90	.000
Final phoneme substitution	1.50	.62	2.50	1.01	-5.74	90	.000
Total-phonemic awareness	10.77	2.28	16.18	3.80	-8.36	90	.000
Total Phonological Awareness-PA	19.18	3.38	29.04	6.92	-9.25	90	.000

As in shown in Table 1 above, at post-test the mean values for the experimental group for the phonological awareness were higher than for the control group for the total PAT and all subtests. The results of the independent-sample t-test showed that this difference was statistically significant at $p < .05$ level. For example, at rhyme level $t(90) = -4.17$, $p = .000$, at rime level $t(90) = -8.39$, $p = .000$, and at phoneme level, $t(90) = -8.36$, $p = .000$ and the total phonological awareness $t(90) = -9.25$, $p = .000$ indicating that the experimental group students who were taught basic reading skills using vocabulary and word study activities in explicit rime based phonics method made statistically significant improvement in phonological awareness at rhyme, rime and phoneme levels and in the overall phonological awareness outcomes than the control group students who learned basic reading skills in the conventional way.

Hypotheses Testing

Hypothesis a: There is no significant difference in phonological awareness outcomes at rhyme level between the control and experimental groups.

Decision: Reject the null hypothesis. The p-value (.000) was < alpha .05, for all the subtest scores and the total rhyme awareness and therefore the difference was statistically significant.

Hypothesis b: There is no significant difference in phonological awareness outcomes at rime level between the control and experimental groups.

Decision: Reject the null hypothesis. The p-value (.000) was < alpha .05, for all the subtest scores and the total rime awareness and therefore the difference was statistically significant.

Hypothesis c: There is no significant difference in phonological awareness outcomes at phoneme level (phonemic awareness) between the control and experimental groups.

Decision: Reject the null hypothesis. The p-value (.000) was < alpha .05, for all the subtest scores and the total rime awareness and therefore the difference was statistically significant.

5.4.2.1.1.2 An Independent Samples t-test Results of Word Recognition

The results of the independent samples t-test for word recognition are detailed in Table 7 below. Hypotheses c, d and e will be discussed from this table.

Table 8: The word recognition test results of independent samples t-test for the experimental and control groups in the main study (post-test).

Sub-tests	Control Group		Experiment Group		t	df	Sig.(2- tailed)
	Mean	SD	Mean	SD			
Instructed words reading	10.09	4.45	20.62	4.64	-10.10	90	.000
Invented words reading	8.90	3.92	18.25	4.83	-10.19	90	.000
Novel words reading	9.75	3.85	22.37	4.69	-11.13	90	.000
Total Word Recognition	28.56	11.57	61.25	12.28	-13.14	90	.000

According to the result shown in Table 2 above, the mean values for the experimental group for all subtests and the overall word recognition outcomes at the post-test were higher than for the control group. The results of the independent-sample t-test showed that this difference was statistically significant at $p < .05$ level. For example for reading instructed or learned words $t(90) = -10.10$, $p = .000$, reading invented words, $t(90) = -10.19$, $p = .000$, reading non instructed or novel words $t(90) = -11.13$, $p = .000$, and $t(90) = -13.14$, $p = .000$, for the overall word recognition outcome. This implies that the experimental group students who were taught basic reading skills using vocabulary and word study activities in explicit rime based phonics method made greater and significant achievement in word recognition than the control group students who learned basic reading skills in the conventional way.

Hypothesis Testing

Hypothesis d: There is no significant difference in learned words reading outcomes between the control and experimental groups.

Decision: Reject the null hypothesis. The p-value (.000) was $< \alpha .05$, for the learned words reading scores and therefore the difference was statistically significant.

Hypothesis e: There is no significant difference in invented words reading outcomes between the control and experimental groups.

Decision: Reject the null hypothesis. The p-value (.000) was $< \alpha .05$, for invented words reading scores and therefore the difference was statistically significant.

Hypothesis f: There is no significant difference in non-instructed words reading outcomes between the control and experimental groups.

Decision: Reject the null hypothesis. The p-value (.000) was $< \alpha .05$, for non-instructed words reading scores and therefore the difference was statistically significant.

5.4.2.1.2 Within Group Comparisons of Improvement

The pre- and post-test mean scores of students in the experimental and control groups were compared to notice if there existed improvements within the groups. Paired-sample t-test was conducted to determine whether the differences between the mean scores of the

two measures taken at different stages of the intervention (before and after the intervention) in phonological awareness and word recognition outcomes were statistically significant. Cohen's *d* was also calculated to measure the magnitude of the intervention effect on each subtests and total phonological awareness and word recognition scores, and the results are presented below.

5.4.2.1.2.1 A Paired Sample t-test Results of Phonological Awareness

The results of the paired sample t-test for the phonological awareness for the experimental and control groups are detailed in Tables 8 and 9 below.

Table 9: The phonological awareness test results of paired samples t-test for the experimental group in the main study.

Sub-tests	Pre-test		Post-test		t	df	Sig. (2-tailed)
	Mean	SD	Mean	SD			
Rhyme Awareness							
Rhyme recognition	2.66	1.03	3.64	1.46	-10.15	47	.000
Rhyme production	1.68	.85	2.43	1.72	-9.19	47	.000
Total- Rhyme awareness	4.35	1.89	6.08	.74	-12.75	47	.000
Rime Awareness							
Rime segmentation	1.87	.70	2.83	1.15	-8.61	47	.000
Rime blending	2.53	.67	3.93	1.09	-10.57	47	.001
Total-Rime awareness	4.43	1.25	6.77	1.89	-13.37	47	.000
Phonemic Awareness							
Phoneme segmentation	1.81	.76	2.70	1.09	-7.04	47	.000
Phoneme blending	2.66	.69	3.37	.98	-6.15	47	.000
Initial phoneme deletion	1.54	.68	2.45	1.11	-7.73	47	.000
Final phoneme deletion	1.81	.81	2.72	1.10	-7.99	47	.000
Initial phoneme substitution	1.43	.68	2.41	.89	-9.30	47	.000
Final phoneme substitution	1.41	.62	2.50	1.01	-10.15	47	.000
Total-phonemic awareness	10.68	.30	16.18	3.80	-18.95	47	.000
Total Phonological awareness	19.47	4.85	29.04	6.29	-23.94	47	.000

According to the result in Table 8, there was a difference in the mean values of the phonological awareness outcomes from pre- to post-test, suggesting that the experimental groups made greater gains over the intervention period. The results of the paired-sample t-test showed that the difference was statistically significant at $p < 0.05$, and the Cohen's *d* indicated that the magnitude of the intervention effect was very large for all variables. For rhyme awareness $t(47) = 12.75$, $p = 0.000$, Cohen's $d = 1.20$, for rhyme awareness,

$t(47)=13.37$, $p=0.000$ Cohen's $d=1.46$, for phoneme awareness, $t(47)=18.95$, $p=0.000$, Cohen's $d=2.03$ and for total phonological awareness $t(47)=23.94$, $p=0.000$ Cohen's $d=1.73$. This implies that the experimental group students, who were taught basic reading skills using word studies and vocabulary activities with an explicit rime-based phonics method, achieved significantly higher outcomes and faster progress in overall phonological awareness and phonological awareness outcomes at the rhyme, rime, and phoneme levels than the control group students who were taught basic reading skills in the conventional way.

Table 10: The phonological awareness test results of paired samples t-test for the control group.

Sub-tests	Pre-test		Post-test		t	df	Sig. (2-tailed)
	Mean	SD	Mean	SD			
Rhyme Awareness							
Rhyme recognition	2.70	1.02	2.65	1.11	.530	43	.599
Rhyme production	1.56	.87	2.43	1.61	-.530	43	.599
Total- Rhyme awareness	4.27	1.78	4.34	1.72	-.443	43	.660
Rime Awareness							
Rime segmentation	1.68	.63	1.77	.85	-.752	43	.458
Rime blending	2.40	.69	2.43	.72	-.573	43	.570
Total-Rime awareness	4.09	1.19	4.06	1.12	.274	43	.785
Phonemic Awareness							
Phoneme segmentation	1.90	.67	1.93	.69	-.374	43	.710
Phoneme blending	2.52	.76	2.50	.81	.184	43	.855
Initial phoneme deletion	1.59	.69	1.72	.68	-1.18	43	.244
Final phoneme deletion	1.79	.97	1.86	1.00	-.621	43	.538
Initial phoneme substitution	1.43	.69	1.50	.76	-.621	43	.538
Final phoneme substitution	1.47	.69	1.50	1.01	-.330	43	.743
Total-phonemic awareness	10.72	2.87	10.77	2.28	-.211	43	.834
Total Phonological Awareness	19.09	3.94	19.18	3.36	-.353	43	.726

The result in the table above (see Table 9) indicated that the differences in the mean values of all sub-variables and the overall phonological awareness outcomes from the pre-test to the post-test were very small for the control group. The paired-sample t-test result also showed that the improvement was not statistically significant at $p > 0.05$ for all variables. And the effect of the intervention in the control group was very small for all categories. For rhyme awareness $t(43) = -0.443$, $p=0.660$, Cohen's $d = 0.03$, for rime awareness $t(43) =$

0.274, $p = 0.785$, Cohen's $d = 0.02$, for phonemic awareness and $t(43) = -0.211$, $p=0.834$, Cohen's $d=0.01$ for overall phonological awareness outcome $t(43)=-0.353$, $p=0.726$, Cohen's $d=0.02$. This indicates that the control group students, who were taught basic reading skills using word study and vocabulary activities from their textbooks not in explicit rime-based phonics method, did not show significant improvement on overall phonological awareness as well as phonological awareness outcomes at rhyme, rime, and phoneme levels.

5.4.2.1.2.2 A Paired Sample t-test Results of the Word Recognition

The results of the paired sample t-test for the word recognition test are detailed in Table 6 and 7 below.

Table 11: The word recognition test results of the paired samples t-test for the experimental group in the main study.

Sub-tests	Pre-test		Post-test		t	df	Sig. (2-tailed)
	Mean	SD	Mean	SD			
Instructed words reading	9.93	3.36	20.62	4.64	-21.87	47	.000
Invented words reading	8.39	3.41	18.25	4.83	-18.98	47	.000
Novel words reading	8.79	3.25	22.37	4.69	-23.28	47	.000
Total Word Recognition	27.12	9.73	61.25	12.28	-27.72	47	.000

According to the result in Table 10 above, there were large mean scores improvement for the experimental group students for all word recognition variables from pre- to post-test. The results of the paired-sample t-test showed that these differences were statistically significant at $p<0.05$ level, and the Cohen's d indicated that the magnitude of change was also large for all variables. $t(47) = -21.87$, $p=0.000$, Cohen's $d=2.63$, for reading learned words, $t(47)=18.98$, $p=0.000$, Cohen's $d=2.35$ for reading invented words, $t(47)=23.28$, $p=0.000$, Cohen's $d=3.36$ for reading non-instructed or novel words and $t(47)=27.72$, $p=0.000$, Cohen's $d=3.8$, for the total word recognition outcome. This implies that the experimental group students, who were taught basic reading skills using word study and vocabulary activities with an explicit rime-based phonics method, achieved significantly

higher outcomes and faster progress than the control group on all word recognition variables.

Table 12: The word recognition results of paired samples t-test for the control group in the main study

Sub-tests	Pre-test		Post-test		t	df	Sig. (2-tailed)
	Mean	SD	Mean	SD			
Instructed words reading	10.13	4.12	10.09	4.45	.164	43	.871
Invented words reading	8.59	3.66	8.90	3.92	-1.44	43	.155
Novel words reading	9.25	3.90	9.56	3.85	-1.74	43	.156
Total Word Recognition	27.97	11.24	28.56	11.57	-1.23	43	.224

As shown in Table 12 above, the differences between the pre and post-test mean scores for all variables of word recognition in the control group was very small. The results of the paired samples t-test indicated that the differences were not statistically significant at $p > .05$ level. The Cohen's d also revealed that the effect of the independent variable (method) was very small for all the word recognition variables. For example, $t(43) = .164$, $p = .871$, Cohen's $d = 0.008$ for reading of instructed words, $t(43) = -1.44$, $p = .15$, Cohen's $d = 0.08$ for reading invented words and $t(43) = -1.74$, $p = 0.066$, Cohen's $d = 0.07$ for reading new words and $t(43) = -1.23$, $p = .156$, Cohen's $d = 0.05$ for the total word recognition outcomes. These indicate that the control group students who taught basic reading skills using word study and vocabulary activities from their textbooks not in explicit rime based phonics method could not make significant improvement in all word recognition variables.

5.4.2.1.3 Results of a Linear Regression Analysis

To assess the power of each sub-test of the phonological awareness as predictors of word recognition, Linear Regression Analysis was conducted with total word-recognition outcome as a dependent variable. The results are shown in Table 12 below.

Table 13: Linear Regression Analysis with Word Recognition and PA Sub-tests

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Rime blending	.589 ^a	.346	.339	16.47214
Initial phoneme deletion	.698 ^b	.487	.475	14.68112
Initial Phoneme substitution	.746 ^c	.556	.541	13.73198
Final phoneme substitution	.768 ^d	.589	.570	13.28114

a. Predictors: (Constant), rime blending

b. Predictors: (Constant), rime blending, initial phoneme deletion

c. Predictors: (Constant), rime blending, initial phoneme deletion, initial phoneme substitution

d. Predictors: (Constant), rime blending, initial phoneme deletion, initial phoneme substitution, final phoneme substitution

In the regression equation of word recognition, rime blending, initial phoneme deletion, initial phoneme substitution and final phoneme substitution, entered as predictors. Rime blending explained 34% of the variance of word recognition. And together with initial phoneme deletion, 48% of the variance of word recognition ($F(2, 89) = 42.18, p = .000$) were explained, while rime blending, initial phoneme deletion, initial phoneme substitution, final phoneme substitution together explained 58% of the variance in word recognition ($F(4, 87) = 31.21, p = .000$).

5.4.2.2 Discussion

The present study examined the effects of 16-week basic reading skills instruction embedded in word study and vocabulary activities and presented with an explicit rime-based phonics method on the phonological awareness and word recognition outcomes of Ethiopian primary school EFL students.

The results of the data analysis led to the following main findings. First, instruction was found to facilitate the acquisition and development of phonological awareness at the rhyme, rime, and phoneme levels and the reading of sight or learned words, invented words, and novel or uninstructed words in the experimental group. It should be noted that in the control group there was very little emphasis on reading words by identifying and manipulating the phonological and orthographic components of words, instead the emphasis was more on learning to read words by copying the orthographic image of whole word and memorizing its pronunciation and relying on letter cues, which is the typical

beginning English reading lesson in Ethiopia that might be inherited from the way of teaching transparent Ethiopian languages.

An important implication of the present study is that young Ethiopian EFL students are able to learn phonological awareness skills quickly and improve their word recognition performances through brief and direct beginning reading instruction embedded in word study and vocabulary activities, presented with an explicit rime based phonics method and implemented by the class teachers in primary school settings. The current findings are generally consistent with past studies of rime based phonics instruction delivered to ESL/EFL children (e.g., Ng & Yiakoumetti, 2010; Zuriyatiaslina, et al., 2018) to enhance beginning word reading skills. Given that this was, to the best of the researcher's knowledge, the first training based intervention study to target primary school EFL students in Ethiopia and the findings contribute to the empirical literature that beginning reading instruction embedded in word study and vocabulary activities, presented with an explicit rime based phonics method and provided by class teachers in primary school settings is beneficial to the acquisition and development of EF phonological awareness and word recognition skills in students from transparent L1 background.

The finding of the study showed that phonological awareness predicted word recognition after controlling for initial word reading abilities for the experimental group but not for the control group. Students in the control group had relatively weak phonological awareness and, therefore, it failed to account for individual differences in word recognition. The students in the experimental group acquired phonological awareness skills at varied levels and applied them to aid reading learned or familiar, invented and non-instructed or novel words. Interestingly, the regression analyses showed that fine-grain phonological awareness (phoneme) significantly predicted the word reading for the experimental group but phonological awareness at larger grain-size or rime level significantly explained word reading for the control group. The differential predictive relationships seem to suggest that the acquisition of metalinguistic skills specific to the writing system, in this case phonological awareness at rime and phoneme levels (Foorman et al, 2003; Ehri et al., 2001; Ziegler & Goswami, 2005), is one of the necessary conditions of beginning reading development among foreign language learners. Specific instruction tailored for learning specific writing system is thus needed (Luk & Bialystok, 2008). For children mainly

exposed to whole word instruction, phonological awareness at the larger rime level, as shown in this study, is involved in English reading acquisition.

The findings support the idea that teachers' training and L1 literacy teaching and learning experiences influence their classroom instructional practices and influence the course of reading development (Vellutino et al., 2004; Seymour et al., 2003). During the classroom observation it was noticed that the control group teacher encouraged students to copy the orthographic image of words and memorize the words' pronunciation through repetition. The teacher frequently reminded students to remember the names of the letters from the English alphabet and motivated them to guess the pronunciation of new words relying on letter cues. The teacher did not teach phonological awareness and orthographic skills to facilitate students' word reading. This is a typical method of teaching reading in transparent Ethiopian languages. Different local studies (See Almaz, 2015; Beliliew, 2016; Dereje, 2012; Endalkachew, 2017) revealed that most teachers in Ethiopia were not taught the basic elements of reading and how to teach these skills to students. Teachers in these studies reported not having any in-service and pre-service training in teaching children how to read in English. The experimental group teacher, in this study received an intensive training on explicit rime based phonics method and got school based professional mentoring and support from the researcher. This helped the teacher change her instructional practices and improve students' outcomes.

In fact, several past studies have shown the importance of rime and phoneme awareness in English reading among EFL/ESL children with transparent alphabetic and students with logographic L1 backgrounds (e.g., Ellis et al., (2004); McBride-Chang et al., 2004). Mastery of alphabetic principles or having sufficient phonemic awareness has been suggested as a key to foundational route for word reading in transparent orthographies. However, for word reading in non- transparent alphabetic orthographies such as English, mastery of alphabetic principles or having sufficient phonemic awareness provides only part of the key for word reading. Thus to engage in such word reading process, children need to develop phonological awareness at both rime and phoneme levels (Catts & Kamhi, 2005; Torgesen et al., 2005; Ehri, 1991).

A systematic and explicit rime based phonics program that teach a planned sequence of phonic elements including common spelling patterns (rimes) and initial sounds, and providing sufficient opportunities for students to transfer decoding skills to novel words

containing spelling patterns that have been taught, like the one being examined in this study, are effective in promoting the reading development of L1 students (White, 2005; Hines, 2009; Evan, 2010; Cunningham, 1990).

The findings of this study has shown that instruction in phonics elements such as alphabetic principles, letter/s sound/s associations together with rime and phoneme awareness and analogy decoding strategy is beneficial to early English reading development in Ethiopian EFL students who have very weak initial phonological awareness.

Another important finding from this study is that phonemic awareness tasks especially, phoneme deleting and substituting and also word recognition especially invented words reading are relatively difficult for primary school students in Ethiopia. It is worth noting that the existing primary school English reading instruction emphasizes the teaching of letter names and whole word recognition is helping little to improve students' basic reading skills and participants in this research generally had poor phonological awareness, in particular phoneme awareness. This is in contrast to the view that knowledge of letters alone is a sufficient condition for phoneme awareness to develop (Castle & Coltheart, 2004). Rather, the current findings support that both phonological awareness instruction and the development of letter knowledge promote reading ability (Byrne, 1998; Caravolas, Hulme, & Snowling, 2001).

In learning to read, Perfetti (2003); Perfetti and Liu (2005) proposed that children first need to acquire the language elements that are encoded in the writing system. This is referred to as the general mapping principle. In English, it means that children must understand that each letter represents a distinct sound (i.e. phonological awareness). Then, the details of the letter-sound relationships, the mapping details, need to be acquired gradually. The existing reading instruction for Ethiopian young students does not usually address the foundation skills for learning to read (the acquisition of general mapping principles). The present research has shown that the acquisition of this general mapping principle is important for the beginning reading development of EFL students whose L1 is syllabic and/or alphabetic, because the prior experience of L1 can facilitate the learning of such a principle. For Ethiopian children, both the general and detailed mapping principles need to be taught explicitly in reading instruction.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The main objective of this research project was to investigate whether an explicit rime based phonics method could help students improve their phonological awareness and word recognition achievements. In order to collect data for the study, two sets of tests with different subtests were used. This chapter has three sections: general summary, conclusions and recommendations. In the first section, the procedures used in this study and the major findings obtained will be explained. In the second section, conclusions drawn from the study are presented. In the third section, recommendations will be given based on the findings and conclusions. Finally, implications of the study are indicated.

6.2 Summary

Many ELT scholars (See for example, Vellutino et al., 2004; Ehri et al., 2001) believe that the acquisition and development of basic reading skills such as phonological awareness and word recognition are influenced by the instructional methods used by the classroom teachers. Hence, a research study in this regard has been conducted to find out whether an explicit rime based phonics method improves the phonological awareness and word recognition achievements of students in the Ethiopian context. This study was a quasi-experimental in design. The outcome of interest was measured twice, once before the intervention - pretest and once after the intervention – posttest.

The study was conducted at two public primary schools, Nigist Fura and Tabor in the second semester of 2013 (E.C) academic year for the pilot study and at Ethiopia Tikdem and Haiq Primary Schools during the second semester of 2014 (E.C) academic year for the main study in Hawassa, Ethiopia. Schools were selected purposely to ensure comparability in terms of resources, students' socio economic background English teachers' qualifications and experiences. Data was collected from Grade three students in the two schools. Participating students were selected randomly. Sections were used as units of randomization. One Grade three section from each participating school was selected randomly; students in the selected sections were pre-tested to check homogeneity in their initial basic reading skills performances. the result was analyzed using independent samples t-test and found no statistically significant difference in initial phonological awareness and word recognition performances between students in the two sections. Then sections were assigned into control and experimental groups at random.

There were two participating teachers, one for the experimental group and the other for the control group, both of whom had comparable qualifications and teaching experiences both in the pilot and main study. The experimental group was taught basic reading skills embedded in word study and vocabulary activities with a rime-based-phonics method using materials prepared for this purpose, while the control group was taught basic reading skills using the actual word study and vocabulary lessons from Grade Three textbooks not in rime based phonics method. Both groups in the main study received two hours of extra lesson per week for 16 weeks, 40 minutes long, 3 days a week (Monday to Wednesday), with a total teaching time of 32 hours. The intervention training was conducted by the Grade Three classroom English teachers who were trained by the researcher prior to the intervention. During the intervention training, the researcher met with the teacher twice a week to review the students' progress, clarify learning outcomes, and collect the teacher's comments on the program. Two sets of oral tests with various sub-tests were administered to both groups twice, once before the intervention-pre-test and once after the intervention-post-test to measure the dependent variables of the study and gather data.

The tests, training and teaching materials were made available to the research project supervisors, an educational psychologist, a primary school English teacher and two experienced EFL teachers from the university to ensure the content and face validity. Test/retest reliability was made before the pilot study to ensure reliability of the tests. Test/retest was conducted at Stadium primary school with eight Grade Three students. An inter-rater reliability was performed to check the consistency of testers' scores ($N = 2$). The data for checking the inter-rater reliability were generated during the test/retest reliability check and testers' training secession. Person's Moment Correlation was used to determine the tests and inter-raters' reliabilities and the results proved that the tests and testers' scoring were reliable. Treatment adherence was assessed by observing randomly chosen sessions and employing an independent rater observing the sessions with the researcher. Researcher's-developed rubrics were used to monitor and assess sessions and it was found that overall adherence to treatment was very large.

The data collected through the pre and post oral tests was analyzed using t-test, and Linear Regressions Analyses to examine improvements and test the hypotheses.

A t-test was used to determine if there were significant differences in the mean scores of the control and experimental groups. The results of the pre-test showed that there was no

significant difference between the mean scores of the control and the experimental groups. The results of the statistical analysis of the independent sample test at the post-test showed that the students in the experimental group showed significant improvements in phonological awareness outcomes at rhyme, rime and phoneme levels and their word recognition performances in all cases (at $p > 0.05$ level). Thus, based on the results all the null hypotheses were rejected. The results of the statistical analysis of the paired samples test gained that the students in the experimental group gained statistically significant improvement in their phonological awareness and word recognition outcomes in all cases during the course of the intervention period. On the other hand, the improvement in the control group was not statistically significant.

The result of Linear Regression Analysis demonstrated that phonemic awareness and rime awareness levels and phonological awareness sub-skills such as phoneme deletion and substitution and onset-rime blending were important predictors of English word reading development of Ethiopian primary school students. The result showed that sub-skills of phonemic awareness, especially phoneme, deleting and substituting and word recognition particularly reading invented words are relatively difficult for primary school students in Ethiopia. The finding also indicated that teachers' training experience influence their instructional practices and the reading development of students.

6.3 Conclusions

Based on these findings the following conclusions are drawn.

- i. Findings shown that Ethiopian primary school EFL students are able to learn phonological awareness skills quickly and improve their word recognition performances through a brief and direct beginning reading instruction embedded in word study and vocabulary activities, presented with an explicit rime based phonics method and implemented by the class teacher in primary school settings.
- ii. Phonological awareness at rime and phoneme levels and phonological awareness sub-skills/tasks especially rime segmentation, phoneme deleting and substituting are important foundational skills that predict the acquisition and development of Ethiopian primary school EFL students' word recognition ability.
- iii. The existing primary school reading instruction in Ethiopia seems to help little to develop students' phonological awareness and to aid their English word recognition.

- iv. Phonemic awareness sub-skills especially, phoneme deleting and substituting and word recognition ability particularly invented words reading are relatively difficult tasks for primary school students in Ethiopia.
- v. Knowledge of letter names alone may not be a sufficient condition for developing phonological awareness skills of Ethiopian primary school EFL students.
- vi. Teachers' trainings and L1 literacy skills teaching and learning experiences enhance their beginning reading classroom instructional practices and influence students' reading development.

6.4 Recommendations

Based on the findings and the conclusions drawn, the following recommendations are suggested in line with the policy and practice factors affecting primary students English reading skills acquisitions and development:

- i. Unlike the previous teaching materials, the new English students' textbook for Grade Three includes phonics lessons and activities to help students improve their basic reading skills. Efforts have been also made to incorporate some elements of basic reading skills into the word study and vocabulary activities. This helps create a learning context in which students can engage in meaningful and purposeful activities. However, there is still a long way to go to provide quality early grade EFL education and improve student achievement in Ethiopia. One of the key findings of this study is that for children who receive mostly whole-word instruction and have very limited exposure to written and spoken English, phonological awareness at the rime and phoneme levels, as shown in this study, is important for effective reading skills acquisition and development. The rime-based phonics instruction used in this study helped Ethiopian EFL primary school students acquire the metalinguistic skills (i.e., phonological awareness at the rime and phoneme levels) needed to develop effective English reading skills and significantly improved their word recognition ability. Therefore, the Ministry of Education must ensure actions to integrate such an effective instruction into the primary school English language teaching and teacher education curriculum and design students' textbooks and teacher training courses and materials accordingly.

- ii. The present study has shown that Ethiopian primary school students' phonological awareness and word recognition performances particularly invented words reading were poor. This indicates that the existing English reading instruction in Ethiopian primary schools that encourages students to memorize letter names and word pronunciation may not help to improve the foundational skills necessary to achieve effective reading skill in English. Most teachers in our schools tend to teach English basic reading skills the way they teach reading in transparent Ethiopian languages. This is in contrast to the view that languages with different orthographic nature and depth require different instructional approaches (Zigeler & Goswami, 2005; Seymour et al., 2003). Ethiopian languages use two types of orthographic systems. Languages from the Semitic family (e.g. Amharic, Tigrigna, Hareri) use the Ge'ez alphabet, an alpha-syllabic script in which a single symbol called 'fidel' regularly represents a syllable (CV unit). On the other hand, most languages of the Cushitic (e.g. Affann Oromo, Sidamuu Affoo) and Omotic (e.g. Woalitattoo, Kaafii Noonoo) families use the phoneme-based Latin script (Yri, 2004; Piper & Van, 2016). In most Ethiopian languages, a letter/fiddle consistently corresponds to a specific sound in phoneme-based Latin scripts and to a syllable (CV unit) in the alpha-syllabic Ge'ez script. Because of this, Ethiopian students can read new words in their L1 using the word's phonological information or using their letter naming knowledge (Piper & Van, 2016). But that is not the case in English. English has a deep spelling system where the correspondence between written and spoken units is not always consistent. To read a new English word, students rely more on the word's orthographic information than on its phonological information. This is because; the actual pronunciation of a particular word cannot simply be guessed from its spelling. Knowledge of letter names or/and letter-sound correspondences (i.e., GPCs) in English alone provides only part of the key to decoding new words, and therefore students need more than just letter naming and phoneme-level knowledge and strategy to read new words in English (Ellis et al., 2004; Ziegler & Goswami, 2005; Goswami, 1998; Goswami & Bryant, 1990). Scholars such as Luk and Bialystok (2008); Ziegler and Goswami (2005) and Ehri et al. (2001) suggested that metalinguistic skills

specific to the writing system, in this case English, is one of the necessary conditions of beginning reading development among foreign language learners and specific instruction tailored for learning the specific writing system is thus needed. Primary school teachers should be aware of this fact and strongly recommended to use more effective instructional methods such as an explicit rime based phonic method and improve the quality of their instruction and enhance students' achievement.

- iii. The results of the present study support the idea that teachers' classroom experiences influence students' reading development (Vellutino et al., 2004; Seymour et al., 2003; Sucena et al., 2015). The result proved that primary school English teachers in Ethiopia can play an important role in helping students acquire and develop basic reading skills if teachers receive proper training, well-designed materials and professional mentoring and support. The Ministry has to ensure that children at their formative period receive quality EFL learning through enacting a curriculum policy which ensures their teachers receive adequate and relevant training to competently handle their English teaching to the level. Therefore, the Ministry of Education, Teacher Training Collages, Regional Education Offices and other development partners working in the area of child literacy should think ways of providing trainings on rime based phonics instructional method for both pre-service teacher trainees and in-service teachers.

REFERENCES

- Akamatsu, N. (2005). Effects of second language reading proficiency and first language orthography on second language word recognition. In V. Cook & B. Bassetti (Eds.), *Second language writing systems* (pp. 238-259). Clevedon, UK: Multilingual Matters.
- Almaz, Debru. (2015). Investigating the practice of teaching English reading and its challenges in First Cycle Primary Level. PhD Dissertation: Addis Abeba University.
- August, D., McCardle, P., & Shanahan, T. (2014). Developing literacy in English language learners: Findings from a review of the experimental research. *School Psychology Review*, 43(4), 490–498.
- Anthony, J. L., & Francis, D. J. (2005). Development of phonological awareness. *Current Directions in Psychological Science*, 14(5), 255–259.
- Anthony, J., L. and Lonigan, C.J. (2004) the nature of phonological awareness: Converging evidence from four studies of preschool and early grade school children. *Journal of Educational Psychology*. 96 (1), pp.43-55.
- Belilew, Molla. (2016). An Insight into the Practice of Teaching Early Reading in Ethiopian Primary Schools. *International Journal of Foreign Language Teaching & Research*, 4(15) 1-24.
- Blachman, B. A., Ball, E. W., Black, R., & Tangel, D. M. (2000). *Road to the Code: A Phonological Awareness Program for Young Children*. Baltimore, MD: Paul H. Brookes Publishing Co.
- Booth, R.J. & Perfetti, C. A.(2002). Onset and Rime Structure Influences Naming but Not Early Word Identification in Children and Adults. *Scientific Studies of Reading*, 6(1). Retrieved January 4, 2022 from https://doi.org/10.1207/S1532799XSSR0601_01.
- Branum-Martin, L., Tao, S., Garnaat, S., Bunta, F. and Francis, D.J. (2012) Meta-Analysis of Bilingual Phonological Awareness: Language, Age, and Psycholinguistic Grain Size. *Journal of Educational Psychology*. 104 pp.932-944.
- Burns, M.K.(2018). The Relationship between Acquisition Rate for Words and Working Memory, Short-Term Memory, and Reading Skills: Aptitude-by-Treatment or Skill-by-Treatment Interaction? *Assessment for Effective Intervention*, 43(3) 182– 192.Retrieved February 10, 2022 from <https://doi.org/10.1177/1534508417730822>.
- Catts, H. W., & Kamhi, A. G. (Eds.). (2005). *Language and reading disabilities*, (2nd Ed.). Boston, MA, USA: Pearson.
- Chanyalew Enyew & Abiy Yigzaw. (2015a). Effects of scaffolding on students' reading comprehension. *Science, Technology and Arts Research Journal*, 4(2), 263-271.

- Chanyalew Enyew & Abiy Yigzaw. (2015b). Teachers' current practices of teaching reading and Grade Four students' reading achievement in Dona Berber Primary School. *Science, Technology and Arts Research Journal*, 4 (3), 265-272.
- Chiappe, P., Siegel, L., & Wade-Woolley, L. (2002). *Linguistic diversity and the development of reading skills: A longitudinal study*. *Scientific Studies of Reading*, 6(4), 369-400.
- Choi, Y., & Zhang, D. (2021). The relative role of vocabulary and grammatical knowledge in L2 reading comprehension: A systematic review of literature. *International Review of Applied Linguistics in Language Teaching*, 59(1), 1–30. doi. org/10.1515/iral-2017-0033.
- Christensen, C., & Bowey, J., (2005). The Efficacy of Orthographic Rime, Grapheme–Phoneme Correspondence, and Implicit Phonics Approaches to Teaching Decoding Skills. *Scientific Studies of Reading*, 9(4), 327-349. doi: 10.1207/s1532799xssr0904_1.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillside, NJ: Lawrence Erlbaum Associates.
- Conrad, N.J., & Levy, B. A. (2011). Training letter and orthographic pattern recognition in children with slow naming speed. *Reading and Writing*, 24, 91-115.
- Coltheart, M., & Prior, M. (2006). Learning to read in Australia. *Australian Journal of Learning Disabilities*, 11, 4, 157–164.
- Connelly. V., Johnston, J., and Thompson. B, (2001). The effect of phonics instruction on the reading comprehension of beginning readers. *Reading and Writing*, 14(5), 423-457. Doi: 10.1023/A: 1011114724881.
- Conrad, N.J., & Levy, B. A. (2011). Training letter and orthographic pattern recognition in children with slow naming speed. *Reading and Writing*, 24, 91-115.
- Creswell, J.W. (2009). *Research Design Qualitative, Quantitative, and Mixed Methods Approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Cunningham, P. M. (2013). *Phonics they use: Words for reading and writing* (6th ed). Upper Saddle River, NJ: Pearson Education.
- Cunningham, P. M. (2011). *Best practices in teaching phonological awareness and phonics*. In L. M. Morrow & L.B. Gambrell (Eds.), *Best Practices in Literacy Instruction* (4th ed., pp. 199-223). New York, NY: The Guilford Press.
- Cunningham, A.E., Perry, K.E., Stanovich, K.E. et al. (2004). Disciplinary knowledge of K-3 teachers and their knowledge calibration in the domain of early literacy. *Ann. of Dyslexia*, 54, 139–167. <https://doi.org/10.1007/s11881-004-0007-y>.
- Dartha Fay Starr and Fay H. Starr. (1978). Learning to Read in Ethiopia. *Journal of Readin.*, Vol. 21, (6), pp. 509-513.

Dereje Negede. (2012). Primary EFL Teaching in Ethiopia: Policy and Practice; Unpublished PhD Dissertation, Addis Ababa University.

De Graaff, S., Bosman, A. M. T., Hasselman, F., & Verhoeven, L. (2009). Benefits of systematic phonics instruction. *Scientific Studies of Reading*, 13, 318–333. Retrieved December 14, 2021 from <https://doi.org/10.1080/10888430903001308>.

Duwenhoegger, J. L. (2021). Reading Instructional Methods: The Effectiveness of Phonetic-Based, Whole Language, and Balanced Approaches to Teaching Beginning Readers [Master's thesis, Bethel University]. Spark Repository. <https://spark.bethel.edu/etd/180>.

Dixon, P., Schagen, I., and Seedhouse, P. (2011). The impact of an intervention on children's reading and spelling ability in low income schools in India. *School Effectiveness and School Improvement*, 22(4), 461–482. Retrieved March 2, 2022 from <https://doi.org/10.1080/09243453.2011.625125>.

EdD, S. Y., & Savage, R. (2019). Teaching Grapheme–Phoneme Correspondences Using a Direct Mapping Approach for At-Risk Second Language Learners: A Randomized Controlled Trial. *Journal of Learning Disabilities*, 1–14.

Ehri, L.C. (1998). *Grapheme–phoneme knowledge is essential for learning to read words in English*. In J. Metsala & L. Ehri (Eds.), *Word recognition in beginning literacy* (pp. 3–40). Mahwah, NJ: Erlbaum.

Ehri, L. C. (2005). Development of sight word reading: phases and findings. In M. J. Snowling & C. H. Hulme (Eds.), *The Science of Reading: A Handbook* (pp. 135–154). Malden, MA: Blackwell.

Ehri, L. C., & Robbins, C. (1992). Beginners need some decoding skill to read words by analogy. *Reading Research Quarterly*, 27, 12–28.

Ehri, L. C., Nunes, S. R., Willows, D. M., Schuster, B. V., Yaghoub-Zadeh, Z., & Shanahan, T. (2001). Phonemic awareness instruction helps children learn to read: Evidence from the National Reading Panel's meta-analysis. *Reading Research Quarterly*, 36(3), 250–287.

Ellis, N. C., Natsume, M., Stavropoulou, K., Hoxhallari, L., van Daal, V. H. P., Polyzoe, N., Petalas, M. (2004). The effects of orthographic depth on learning to read alphabetic, syllabic, and logographic scripts. *Reading Research Quarterly*, 39, 438–468.

Endalkachew Jenbere. (2017). A Study on the Efficacy of Synthetic and Analytic Phonics Approaches on the Reading Ability of Grade One Children in an EFL Context: The Case of Government Primary school Students in Hawassa. PhD Dissertation: Addis Abeba University.

- Evans, A. (2013). The Effects of Teaching Analogy-based Reading and Spelling Strategies to Children in Years Three and Four. A Master's Thesis in Educational Psychology Massey University Palmerston North, New Zealand.
- Fekede, Munuta. & Hailu, Wubshet. (2018). Efficacy of English Taught in Lower-Primary to be used as a Medium in Upper- Primary. *Ethiopian Journal of Languages and Literature*, XIV. 118-129.
- Finn, C. E. (2000). *Foreword*. In L. Moats, *Whole language lives on: The illusion of 'balanced' reading instruction*. Washington, DC: Thomas Fordham Foundation.
- Foorman, B.R. (1995). Practiced Connections of Orthographic and Phonological Processing. In: Berninger, V.W. (eds) *The Varieties of Orthographic Knowledge. Neuropsychology and Cognition*, vol 11. Springer, Dordrecht. https://doi.org/10.1007/978-94-011-0385-5_12.
- Foorman, B. R., Chen, D. T., Carlson, L. M., Francis, D. J., & Fletcher, J. M. (2003). The necessity of the alphabetic principle to phonemic awareness instruction. *Reading and Writing: An Interdisciplinary Journal*, 16, 289–324
- Gaskins, I. W. (2004). Word detectives. *Educational Leadership*, 61, 70-73.
- Gaskins, I. W. (1998a). There's more to teaching at-risk and delayed readers than good reading instruction. *The Reading Teacher*, 51(7), 534-547.
- Gaskins, I. W. (1998b). *A beginning literacy program for at-risk and delayed readers*. In J. L. Metsala & L.C. Ehri (Eds.), *Word Recognition in Beginning Literacy* (pp.209-232).Mahwah NJ: Lawrence Erlbaum Associates.
- Georgiou, G., K., Torppa, M., Manolitsis, G., Lyytinen, H. and Parilla, R. (2012) Longitudinal predictors of reading and spelling across languages varying in orthographic consistency. *Reading Writing*. 25 pp.321-346.
- Gillon, G.T. (2004) *Phonological Awareness: From Research to Practice*. New York: The Guilford Press.
- Grofčíková, S., & Máčajová, M. (2017). Abilities of phonological awareness in the context of cognitive development in pre- school age. *Journal of Language and Cultural Education*, 5(3), 46–56. <https://doi.org/10.1515>.
- Gough, P. G., Kastler, L., & Roper, D. W. (1984). *GKR Phonemic Awareness Test*. Austin, Texas: University of Texas.
- Gove, A. and Cvelich, P. (2010). Early Reading: Igniting Education for All. A Report by the Early Grade Learning Community of Practice (Research Triangle Park NC: Research Triangle Institute, 2010).
- Goswami, U. (2008). *Cognitive development: The learning brain*. Psychology Press.

- Goswami, U., Ziegler, J.C., Dalton, L. and Schneider, W. (2003) Nonword reading across orthographies: How flexible is the choice of reading units? *Applied Psycholinguistics*, 24 pp.235-247.
- Goswami, U. (1986). Children's use of analogy in learning to read: A developmental study. *Journal of Experimental Child Psychology*, 42, 73-81.
- Goswarthi, U. (1988). Orthographic analogies and reading development. *Quarterly Journal of Experimental Psychology*, 40, 239-268.
- Goswami, U. (1991). Learning about Spelling Sequences: The role of orthographic rime in analogies in reading. *Child Development*, 62, 1110-1123.
- Goswami, U., & Mead, F. (1992). Onset and rime awareness and analogies in reading. *Reading Research Quarterly*, 27(2), 152– 162. Retrieved February 16, 2022 from <https://doi.org/10.2307/747684>.
- Goswami, U. (1993). Toward an interactive analogy model of reading development: Decoding vowel graphemes in beginning reading. *Experimental Child Psychology*, 56(3), 443–475. doi:10.1006/jecp.1993.1044.
- Goswami, U. (1998). The role of analogies in the development of word recognition. In J. L. Metsala & L.C. Ehri (Eds.), *Word Recognition in Beginning Literacy* (pp. 41-63). Mahwah NJ: Lawrence Erlbaum Associates.
- Goswami, U., & Bryant, P. (1992). *Rhyme, analogy, and children's reading*. In B. Gough, L. C.
- Greaney, K. T., Tunmer, W. E., & Chapman, J. W. (1997). Effects of rime-based orthographic analogy training on the word recognition skills of children with reading disability. *Journal of Educational Psychology*, 89(4), 645-651.
- Gunderson, L. (2014). *ESL (ELL) Literacy Instruction A Guidebook to Theory and Practice*, 3rd Edn. New York: Routledge.
- Han, F. (2015). Word recognition research in foreign language reading: A systematic review. *University of Sydney Papers in TESOL*, 10, 57–91.
- Hatcher, P., J., Hulme, C. and Snowling, M., J. (2004) Explicit phoneme training combined with phonic reading instruction helps young children at risk of reading failure. *Journal of Psychology and Psychiatry*. 5 (2), pp.338-358.
- Heugh K, Benson C, Bogale, B. and Yohannes, M. (2007). Final Report Study on Medium of Instruction in Primary Schools in Ethiopia, Ministry of Education.
- Hines, S J. (2009). The effectiveness of a color-coded, onset-rime decoding intervention with first-grade students at serious risk for reading disabilities. *Learning Disabilities Research and Practice*, 24(1):21-32.

- Holton, E. (2021). Whole Language versus Direct Phonics Instruction. Thesis, Concordia University, St.Paul. Retrieved January 6, 2022 from https://digitalcommons.csp.edu/teachereducation_masters/45.
- Honig, B., Diamond, L., Gutlohn, L., & Mahler, J. (2000).Core teaching reading sourcebook. Novato, CA: Arena Press. Hugh K, Benson C, Bogale, B. & Yohannes, M. (2007). Final Report Study on Medium of Instruction in Primary Schools in Ethiopia, Ministry of Education. Addis Ababa: Government of Ethiopia.
- House of Commons Education and Skills Committee (UK). (2005). *Teaching Children to Read*, London: HMSO
- Huo, S. & Wang S., (2017). The Effectiveness of Phonological-Based Instruction in English as Foreign Language Students at Primary School Level: A Research Synthesis. *Front. Educ.* 2(15), 1-13. Doi: 10.3389/educ.
- Irujo, S. (2007). What does research tell us about teaching reading to English language learners? *ELL Outlook*. Retrieved February 14, 2022 from [http://www.coursecrafters.com/what-does-research-tell-us-about-teaching read](http://www.coursecrafters.com/what-does-research-tell-us-about-teaching-read).
- Jazmin, L., (2021). Reading Instructional Methods: The Effectiveness of Phonetic-Based, Whole Language, and Balanced Approaches to Teaching Beginning Readers. Electronic Theses and Dissertations. Retrieved February 10, 2022 from <https://spark.bethel.edu/etd/180>.
- Jeynes,W. & Littell,S. (2000). A Meta-Analysis of Studies Examining the Effect of Whole Language Instruction on the Literacy of Low-SES Students. *The Elementary School Journal*, 101(1). <https://doi.org/10.1086/499657>.
- Johnston, F.R. (1999). The timing and teaching of word families. *The Reading Teacher*, 53. 64-75.
- Jongejan, W., Verhoeven, L., & Siegel, L. S. (2007). Predictors of reading and spelling abilities in firstand second-language learners. *Journal of Educational Psychology*, 99, 835–851.
- Kim, H.J., (2021). Persistent inequalities in early years’ access and learning: evidence from large-scale expansion of pre- primary education in Ethiopia. *Early Childhood Research Quarterly*, 58,103–114.
- Koda, K. (2007). Reading and language learning: Cross-linguistic constraints on second language reading development. *Language Learning*, 57, 1-44.
- Lovett, M., Lacerenza, L., Borden, S. L., Frijiters, J. C., & Steinbach, K. A. (2000). Components of effective remediation for developmental reading disabilities: Combining phonological and strategy-based instruction to improve outcomes. *Journal of Educational Psychology*, 92(2), 263-283.

- Luk, G., & Bialystok, E. (2008). Common and distinct cognitive bases for reading in English–Cantonese bilinguals. *Applied Psycholinguistics*, 29, 269–289.
- Lyytinen, H. & Richardson, U. (2014). The Graphogame Method: The Theoretical and Methodological Background of the Technology-Enhanced Learning Environment for Learning to Read. *An Interdisciplinary Journal on Humans in ICT Environments*, 10(1), 39-60. <http://www.humantechnology.jyu.fi/>.
- Maddox, K., & Feng, J. (2013). Whole language instruction vs. phonics instruction: Effect on reading fluency and spelling accuracy of first grade students. Online Submission, Retrieved from <https://ezproxy.bethel.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&d b=eric&AN=ED545621&site=ehost-live&scope=site>.
- Manolitsis, G., Georgiou, G., K., Stephenson, K. and Parilla, R. (2009) Beginning to read across languages varying in orthographic consistency: Comparing the effects of noncognitive and cognitive predictors. *Learning and Instruction*. pp.466-480.
- McGuinness, D. (2004, 2006). *Early Reading Instruction: What Science Really Tells Us about How to Teach Reading* Cambridge, Massachusetts: The MIT Press. Massachusetts Institute of Technology. <http://mitpress.mit.edu/>. ISBN: 0262134381.
- Mesmer, A. & Griffith, P. (2005). Everybody's Selling It—But Just What Is Explicit, Systematic Phonics Instruction? *The Reading Teacher*. 59 (4), 366-376. <https://doi.org/10.1598/RT.59.4.6>.
- Ministry of Education (MoE). (1994). *The New Education and Training Policy of Ethiopia*. Addis Ababa: Government of Ethiopia.
- Ministry of Education (MoE). (2020). *The New Education Roadmap*. Addis Ababa: Government of Ethiopia.
- Ministry of Education (MoE). (2017). *English for Ethiopia Students' Texts, Grades 1-3*. Addis Ababa: Government of Ethiopia.
- Ministry of Education (MoE). (2009). *Curriculum Framework for Ethiopian Education*. Addis Ababa: Government of Ethiopia.
- Ministry of Education (MoE). (2003-2015). *The Education Sector Development Program I-IV (ESDP, 2003-2015)*. Addis Ababa: Government of Ethiopia.
- Milankov, V.; Golubovi'c, S.; Krsti'c, T.; Golubovi'c, Š. Phonological Awareness as the Foundation of Reading Acquisition in Students Reading in Transparent Orthography. *Int. J. Environ. Res. Public Health* 2021, 18, 5440. <https://doi.org/10.3390/ijerph18105440>.

Muter, V. and Diethelm, K. (2001) The contribution of phonological skills and letter knowledge to early reading development in a multilingual population. *Language Learning*, 51 (2), pp.187-219.

NEAEA (2000) Ethiopian First Learning Assessment for Grade 4. Addis Ababa: National Education Assessment and Examinations Agency.

NEAEA (2004) Ethiopian Second Learning Assessment for Grade 4. Addis Ababa: National Education Assessment and Examinations Agency.

NEAEA (2008). Ethiopian Third Learning Assessment for Grade 4, Addis Ababa: National Education Assessment and Examinations Agency.

NEAEA (2012). Ethiopian Fourth Learning Assessment for Grade 4. Addis Ababa: National Education Assessment and Examinations Agency.

NEAEA (2012). Ethiopian Fifth Learning Assessment for Grade 4. Addis Ababa: National Education Assessment and Examinations Agency

National Reading Panel. (2000). Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. Washington, DC: NIH.

Nagy, W. E., & Anderson, R. C. (1995). *Metalinguistic awareness and literacy acquisition in different languages*. University of Illinois, College of Education.

Odo, D, (2021). A Meta-Analysis of the Effect of Phonological Awareness and/or Phonics Instruction on Word and Pseudo Word Reading of English as an L2. *SAGE Open*, October-December 2021: 1–13 Retrieved on February 20, 2022 from. <https://orcid.org/0000-0002-5438-0446>.

Ojanen, E., Kujala, J., Richardson, U., & Lyytinen, H. (2013). Technology-enhanced literacy learning in Zambia: Observations from a multilingual literacy environment. *Insights on Learning Disabilities: From Prevailing Theories to Validated Practices*, 10(2), 103–127.

Otaiba, S.A., Lake, V.E., Greulich, L. et al. (2012). Preparing beginning reading teachers: An experimental comparison of initial early literacy field experiences. *Read Writ* 25, 109–129 <https://doi.org/10.1007/s11145-010-9250-2>

Ouellette, G. P., & Sénéchal, M. (2008). A window into early literacy: Exploring the cognitive and linguistic underpinnings of invented spelling. *Scientific Studies of Reading*, 12(2), 195-219.

Park, M., & Jeong, M. (2005). Phonological awareness and word reading in an EFL context: Phoneme based vs. onset/rime based method. *Elementary English Education*, 11(1), 267–293.

- Pankhurst, R. (1968). A Historical Background of Education of Ethiopia.
- Perfetti, C. A. (2003). The universal grammar of reading. *Scientific Studies of Reading*, 7, 3–24.
- Perfetti, C. A., & Liu, Y. (2005). Orthography to phonology and meaning: Comparisons across and within writing systems. *Reading and Writing: An Interdisciplinary Journal*, 18, 193–210.
- Piper, B. (2010). Ethiopia Early Grade Reading Assessment: Data Analysis Report: Language and Early Learning. Prepared by RTI for USAID.
- Piper, B. & Van, J. (2016). Reading the script: How the scripts and writing systems of Ethiopian languages relate to letter and word identification. *WRITING SYSTEMS RESEARCH*, 1-24. Retrieved February 22, 2022 from <http://dx.doi.org/10.1080/17586801.2016.1220354>.
- Pressley, M. (2006). *Reading Instruction That Works: The Case for Balanced Teaching* (3rd Ed.). London: The Guilford Press.
- Pressley, M., & Harris, K. R. (2008-2009). Cognitive strategies instruction: From basic research to classroom instruction. *Journal of Education*, 189(1/2), 77-94.
- Robertson, C., & Salter, W. (1997). *The Phonological Awareness Test (PAT)*. East Moline, IL: Linguisticsystems.
- Rose, J. (2006). *Independent review of the teaching of early reading: Final report*. London: Department for Education and Skills.
- Savage, R., & Carless, S., (2004). Predicting growth of nonword reading and letter-sound knowledge following grime and phoneme-based teaching. *Research in Reading*, 27(3), 195-211. Retrieved February 6, 2022 from <https://doi.org/10.1111/j.1467-9817.2004.00227.x>.
- Sénéchal, M., Ouellette, G. P., Pagan, S., & Lever, R. (2012). The role of invented spelling on learning to read in low- phoneme awareness kindergartners: a randomized-control- trial study. *Reading and Writing*, 25, 917–934.
- Seymour, P.H.K., Aro, M., & Erskine, J.M. (2003). Foundation literacy acquisition in European orthographies. *British Journal of Psychology*, 94(2), 143–174. doi:10.1348/000712603321661859.
- Share, D. L., (2004). Orthographic learning at a glance: On the time course and developmental onset of self-teaching. *Experimental Child Psychology*, 87, 267–298. doi:10.1016/j.jecp.2004.01.001.
- Smith, C., Stone, R., & Comings, J. (2012). Literacy policy and practice in Ethiopia: Building on the TELL program and EGRA results. Washington, DC: American Institutes for Research.

Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: The National Academy Press

Snyder, E., & Golightly, A. F. (2017). The effectiveness of a balanced approach to reading intervention in a second grade student: A case study. *Education*, 138(1), 53-67. Retrieved from

<https://ezproxy.bethel.edu/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1154642&site=ehost-live&scope=site>
<http://www.projectinnovation.com/education.html>

Stanbach, M. L. (1992). Syllable and rime patterns for teaching reading: Analysis of a frequency-based vocabulary of 17,602 words. *Annals of Dyslexia*, 42, 196–221.

Stanovich, K. E., & Stanovich, P. J. (1999). *How research might inform the debate about early reading acquisition*. In J. Oakhill & R. Beard (Eds.), *Reading development and the teaching of reading: A psychological perspective* (pp. 12-41). Oxford: Blackwell Publishers.

Solomon & Chanyalew. (2019). Effects of reading strategies on first grade children's phonic performance. *The Internet Journal Language, Culture and Society*, from <http://aaref.com.au/en/publications/journal/> ISSN 1327-774X.

Sucena, A., Cruz, J., Viana, F. L., and Silva, A. F. (2015). "Graphogame Português alícerce: software de apoio a crianças disléxicas," in *Proceedings of the 17th European Conference on Developmental Psychology*, eds M. J. Gomes, A. J. Osório, and L. Valente (Braga: Universidade do Minho).

Sun, B. Zhou, H. Zhu, B. (2013). Effects of English Phonological Awareness Training on Chinese Child EFL Learners' Literacy Development. *Canadian Social Science*, 9(1), pp. 56-64. Retrieved February 10, 2022 from DOI:10.3968/j.css.1923669720130901.1049.

Tan, K. H., Wheldall, K., Madelaine, A., & Lee, L.W. (2007). A review of the simple view of reading: Decoding and linguistic comprehension skills of lowprogress readers. *Australian Journal of Learning Disabilities*, 12, 1, 19–30.

Tsehay Jemberu. (2012). Reading assessment of early grade children of five woredas in North Gonder of Amhara Region: A baseline data analytic report: Save the Children, Norway.

Teklemariam, A. (2006) Ethiopian School Curriculum and its Relevance for Every Day Life: A Study on General Secondary (Grade 9 & 10) Curriculum. In Raheem, K. T., Kupari, P. and Lasonen (Eds.) (pp.41-63). *Educational Issues for Sustainable Development in Africa*. Jyväskylä University.

Treiman, R. (1988). The internal structure of the syllable. In G. Carlson & M. Tanenhaus (Eds.) , *Linguistic structure in language processing*, (pp.27-52). Dordrecht, The Netherlands: Kluwer.

Torgesen, J. K., Al Otaiba, S., & Grek, M. L. (2005). Assessment and instruction for phonemic awareness and word recognition skills. In H. W. Catts & A. G. Kamhi (Eds.), *Language and Reading Disabilities* (2nd Ed.) (pp. 127-156). Boston, MA, USA: Pearson.

Torgesen, J. K., Wagner, K., Rashotte, C., Rose, E., Lindamood, P., Conway, T., Garvan, C. (1997). Preventing reading failure in young children with phonological processing disabilities: group and individual responses to instruction. *Journal of Educational Psychology*. <http://www.coloradoreading.com/Torgensen%20final.html>. Downloaded April, 2008.

Tonkyn, P. (2017). Child-centered Curriculum Leadership for the Subject of English in Ethiopian Primary Schools. Master's Thesis in Education Spring Term 2017 Department of Education University of Jyväskylä

Tunmer, W. E., & Nicholson, T. (2011). The development and teaching of word recognition skill. In M. L. Kamil, P. D. Pearson, E. Birr Moje, & P. P. Afflerbach (Eds.), *Handbook of Reading Research* (pp. 405-431). New York: Routledge.

USAID-READII. (2018). Annual Progress Report.
https://pdf.usaid.gov/pdf_docs/PA00WCJK.pdf

Varghese, J. L. (2015). Relationship between oral language and reading comprehension for English learners: A systematic review [Master's capstone project]. Hamline University. <https://digitalcommons.hamline.edu/cgi/viewcontent.cgi?article=1131&context=hseall>.

Vellutino, F. R., Fletcher, J. M., Snowling, M. J., & Scanlon, D. M. (2004). Specific reading disability (dyslexia): What have we learned in the past four decades? *Journal of Child Psychology and Psychiatry*, 45(1), 2-40.

Walton, P., & Walton, L. (2002). Beginning Reading by Teaching Rime Analogy: Effects on Phonological Skills, Letter-Sound Knowledge, Working Memory, and Word-Reading Strategies. *Scientific Studies of Reading*, 6, 79-115. Retrieved February 19, 2022 from https://doi.org/10.1207/S1532799XSSR0601_04.

Walton, P. D., Walton, L. M., & Felton, K. (2001). Teaching rime analogy or letter recoding reading strategies to pre-readers: Effects on pre-reading skills and word reading. *Journal of Educational Psychology*, 93(1), 160–180.

White, T. G. (2005). Effects of systematic and strategic analogy-based phonics on grade 2 students' word reading and reading comprehension. *Reading Research Quarterly*, 40(2), 234-255.

Wood, C. (2000) Rhyme awareness, orthographic analogy use/phonemic awareness and reading: an examination of relationships. *Educational Psychology*; Dorchester-on-Thames.

Wylie, R.E., & Durrell, D.D. (1970). Teaching vowels through phonograms. *Elementary English*, 47, 787-791.

Yeung, S. S. Chan, C. K. K. Siegel L. S. (2013). Phonological Awareness, Oral Language Proficiency and Beginning Reading Development among Hong Kong Chinese Kindergarteners: An Intervention Study. *Read Writ*, 26:681–704. DOI 10.1007/s11145-012-9383-6.

Yri, K, M. (2004). Orthography and Phonology in Sidaamu Afoo (Sidamo). *Journal of Ethiopian Studies*, 37(1), 41-56

Ziegler, J. C., & Goswami, U. (2005). Reading acquisition, developmental dyslexia, and skilled reading across languages: A psycholinguistic grain size theory. *Psychological Bulletin*, 131, 3–29.

Zuriyatiaslina Y, Jawanees AHN, Norhamimah R, Juliana MN, Ngo KL, Salihah A. Improving students' blending skill using onset- rime approach. *Appl. Sci.*, 10(2S), 847-857.

APPENDICES

Appendix A: Experimental group's training lessons and teacher's guide

Introduction

This manual is prepared for a research project intended to evaluate the effects of explicit rime based phonics method on primary EFL students' phonological awareness and word recognition abilities. The study will be conducted on randomly selected grade three students learning in two different public schools. The students will be randomly assigned into treatment and control groups. The treatment group students will receive an intervention training on explicit rime based phonics method using these lessons.

This manual contains lesson plans prepared for 46 lessons and teachers are strongly encouraged to follow the lesson plan while conducting each intervention lesson.

The Lesson Matrix

Week, session and rime unit	Key words and non-words (are in the manual and will be taught)			Non-instructed words and non-words (aren't in the manual and won't be taught)		
	<i>c-rime</i>	<i>cc-rime</i>	<i>Non-words</i>	<i>c-rime</i>	<i>cc-rime</i>	<i>Non-words</i>
Week four-session one- at	cat, bat, fat, hat, sat, rat, mat	flat, chat, brat	dat, crat	pat, tat, vat,	slat, that, gnat	nat prat
Week four-session two- an	can, ban, fan, tan, pan, man, ran	than, plan	gan, chan	dan, van	flan, scan, span	lan zlan
Week four-session three- ot	hot, pot, lot, cot, jot	clot, blot, trot	fot, glot, zlot	dot, got, not	plot, spot, knot	zot klot
Week five-session one- op	cop, hop, sop, mop, lop	drop, stop, flop, shop crop, chop	dop, chrop,	top, pop,	flop, prop, slop	nop shrop
Week five-session two- ap	nap, sap, tap, cap, map, rap	trap, wrap, chap, clap	fap, stap	gap, lap, sap, yap, zap	flap, slap, snap, strap	vap brap
Week five-session three- ip	dip, hip, lip,	flip, clip,	bip, crip	tip, zip	blip, drip,	wip brip

	nip, rip, sip, lip, rip	chip, grip, ship, skip			quip, snip, strip, trip, whip	
Week six- session one- it	bit, hit, fit, kit, lit, sit, pit	spit, grit, shit, knit, quit	drit, jit	nit	admit, flit, skit, slit, snit, spit, twit	brit
Week six- session two- in	bin, pin, kin, sin, din, fin, tin, win	grin, twin, thin, chin, skin, twin, thin	rin , drin,	gin	chin , shin, spin , within	crin
Week six- session three- ay	bay, day, hay, lay, say, may	bray, clay, dray, flay, stay	zay , glay	jay nay okay pay ray way	away, delay, decay, gray, play , pray, quay, relay replay, slay tray	kay blay
Week seven- session one- aw	caw, jaw, saw, raw	claw, draw, flaw	blaw, daw	law, paw	Gnaw	vaw glaw
Week seven – session two- ug	bug, pug, mug dug, hug, lug, tug	drug, slug, shrug	nug, clug	bug dug hug jug lug mug pug rug	plug, shrug, smug, snug, thug	nug
Week seven- session three- ing	king, ping, ring, sing, ding	bring, sling, spring, sting, string, cling	hing	wing, zing	bring, swing, thing, wring	cring
Week eight- session one- ick	kick, lick nick, pick, sick, kick, lick, nick, sick	stick, brick, chick, quick, click	bick, yick, blick	wick, tick,	flick, slick , trick,	shick
Week eight- session two-	bunk, hunk	chunk, drunk,	runk, shunk	hunk, junk,	shrunk, skunk, spunk,	zlunk

unk				punk, sunk	trunk	
Week eight- session three - ump	bump, dump, jump, lump, rump,	plump, stump, slump, thump, trump	fump, glump	hump, jump,		blump
Week nine- session one- ank	tank bank, rank, sank, tank, tank	blank, crank, frank, plank, spank, thank	mank, chank	dank, yank	drank, flank, hank, prank, shrank	trank zank
Week nine- session two - ink	pink, ink, mink, fink, kink, link, sink	drink, brink, blink, shrink	nink, bink, crink	rink sink wink	stink, think	shick
Week nine- session three- ock	dock, lock, rock , mock , sock	block, clock, flock, frock, knock, shock	bock, hock	cock, jock	crock, smock, stock	fock glock
Week ten- session one - oke	coke, joke, poke	broke, choke, smoke, spoke	noke	woke yoke	awoke, bloke, stoke, stroke	moke
Week ten- session two- ine	dine, fine, line, mine, wine, nine, pine	spine, dine, swine, shine	crine, tine	sine , vine	brine, twine whine	zine
Week ten- session three -ight	right, fight, night	bright, flight, fright	kight	plight, sight slight, tight	height knight might	
Week eleven- session one- ill	bill, dill, fill, hill, ill, kill, skill, will	drill, skill, grill, chill, frill	vill, crill, chrill	gill, mill , pill, sill	quill, shrill, spill, still , swill , thrill	lill
Week eleven- session two -est	nest, pest, rest, test, best, guest	blest, chest	dest, frest	vest, west		drest

Week eleven- session three- eat	beat, eat, heat, meat, neat, peat, seat,	treat, wheat, cheat	jeat, speat	feat, meat	cleat, greet pleat	weat
Week twelve- session one -ate	ate, date, gate, hate, late, mate, rate,	slate, plate	vate, drate	fate gate grate hate kate sate	abate crate debate relate, skate, state	nate brate
Week twelve- session two- ice	dice, ice, mice, nice, rice	Price' splice thrice	pice, grice	vice	slice spice twice	gice
Week twelve- session three -uck	buck duck luck muck puck	pluck stuck truck chuck, cluck	bruck	struck tuck yuck		druck huck
Week thirteen- session one- ide	hide ,ride, side	bride, pride, slide, guide	kide	tide wide	decide , stride	nide
Week thirteen- session two - ore	bore, core, fore, sore, store	store, shore, score, snore, swore	nore	gore lore more ore pore sore tore wore	chore score shore spore	
Week thirteen- session three- -are	bare, care, dare, fare,	blare, glare, scare, share	drare	pare	glare, snare, square, stare	
Week fourteen- session one -ake	bake, cake, fake lake, make wake	brake, flake, shake, stake	dake, jake	take, rake, sake	awake quake snake	jake chake
Week fourteen- session two- ain	rain, gain, lain, main, pain,	brain, chain, train	frain, hain	lain	grain, plain, sprain, stain	jain
Week fourteen- session three -ash	ash, cash, dash, gash, rash, sash	crash, clash, smash, flash	pash, zash, grash	gash, hash, mash,	gnash, splash, trash	nash blash
Week fifteen- session one- ack	back, rack, jack, lack, pack,	black, crack, shack,	dack, mack, plack	sack	snack stack tack	vack

		quack, stack			track whack attack, knock , quack	
Week fifteen- session two -ame	came, game, same, tame, name lame,	Frame	pame, chame	cake		drame
Week fifteen- session three- ail	fail, hail, jail, mail, rail, fail, hail, jail, mail, pail, rail, sail	frail, quail	zail, prail	ail, nail, tail wail	Snail	zail
Week sixteen- session one -ell	bell, cell, fell, sell, tell, well, yell, spell,	smell, shell, swell, spell	Rell	dell, hell	Dwell Farewell	
Week sixteen - session two	Revision					
Week sixteen - session three	Revision					

Week One Session One

Phonics-Letter sound correspondences

Objective: This session is designed to teach the correspondence between letters and sounds in English, as well as familiarize the students with terms that will be used (sounds; letters).

** Teacher's language and scaffolding actions in italics.*

Materials:

Alphabet chart with letters and sounds

Word cards

Letter cards

No	Activity	Description
1	Introduction (10 minutes) <i>Guess the word game with snail talk</i>	-The teacher plays the ‘Guess the Word’ game with the students. <i>T: Alright, students now we are going to play a game. The name of the game is “guess the word”. Have you ever played this game? Look at these words. (The teacher writes the following words on the board flag, tall, boy, cow, car, black and write) Good. Now I am going to say a word using “Snail Talk” a slow way of saying words (e.g., /ffffffllllaaaag/). Then you listen and guess what the word is. For example, listen /kkkkkaaaarrrrrrrr/. Can you guess the word? Good it is ‘car’.</i> -The teacher says some of the words orally in “Snails talk” and asks students to guess the words and the teacher lets students to say different words in “snail Talk”. <i>(NB: Teacher leads children orally through this activity).</i>
2	Presentation (15 mints) Letters and sounds	The teacher introduces the difference and similarities between letters and sounds in English language. <i>T: Alright. Students, today we are going to practice how we read (pronounce) the letters in the English alphabet. Look at this alphabet chart. How many letters do we have in the English alphabet? Great! There are 26 letters in the English alphabet. Can we name them out together? Let us go. (NB: The teacher points to each letter and calls out its name with the students).</i> <i>T: Now look at these words (The teacher hold up the flash cards for the word ‘ball’ and ‘car’). Can you read these words? Ok. The first word is / b ɔ: /l/. Say after me /b ɔ: /l/. Who can read the second? It is /k a: r/. </i> <i>T: What is the first letter in ‘ball’? It is ‘bee’. Yes, how do we pronounce or read the letter ‘b’ in the word ‘ball’? It is /bhh/. Good! So ‘bee’ is the name of the letter and /bhh/ is the sound the letter ‘b’ represents in the word ‘ball’. Who can tell me the name of the first letter and the sound it represents in the word ‘call’? The name of the letter is ‘sii,’ and the sound the letter ‘c’ represents in the word ‘call’ is /khh/.</i>
3	Practice <i>Using alphabet chart with phoneme and anchor words</i> (10minutes)	-The teacher models the sounds of the consonant and vowel letters, blends and diagraphs using phoneme chart with anchor words. <i>T: Now we are going to practice reading the sounds of the letters in the English alphabet. Look at this chart first I read the name of the letter, then the sound of the letter and finally the word we make with the letter. Say after me ‘ey’ /a/, ‘apple’ (NB:</i>

		the teacher continues modeling reading all the letters, blends and diagraphs in the chart).
4	Production (5 minutes)	-The teacher randomly asks different students to tell the name of different letters and the sounds the letters represent.
	Teacher's Self- reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>	

Week One Session Two

Phonics- Number of letters and sounds in words

Objective: This session is designed to teach the number of letters and sounds in English words, as well as familiarize the students with terms that will be used (sounds; letters; vowels; consonants).

** Teacher's language and scaffolding actions in italics.*

Materials:

Alphabet chart with letters and sounds

Word cards

Letter cards

No	Activity	Description
1	Introduction (10 minutes)	-The teacher plays the 'Click click' game with the students.

	Click, click. Phoneme counting game	T: Alright, students now we are going to play a game. The name of the game is “click click”. Have you ever played this game? Good. Now look at this words (Teacher write these words on the board, red, come, chair). Now I am going to say a word slowly by clicking my finger like this, (teacher clicking his/her finger) I click for each sound. For example k-a-t for cat. How many clicks does the word Cat have? 3 clicks. Good. This means the word Cat has 3 letters and 3 sounds. Let’s go for the other words. (NB: Teacher continues playing this game increasing the difficulty level of the words).
2	Presentation (15 mints) Number of Letters and sounds.	The teacher introduces the difference and similarities between letters and sounds in English language. T: Alright. Students, today we are going to practice identifying number of letters and sounds in words. Look at this word (the teacher hold up a flash card with the word ‘Blue’ and asks), who can read this word? Great it is blue. Say after me /b-l-u/ /blu/. Good how many letters does the word blue has? Yes, four letters. Can you name them out? Yes b,l,u,e. Ok let us pronounce the word again say after me /b-l-u/. Now tap your desk for each sound you hear from the word blue. Ready? Ok /b-l-u/. How many times did you tap your desk? Three times, this means the word blue has three sounds. Look blue has four letters but three sounds. T: What did you learn from this? In English, letters and sounds are different. Letters are written forms and sounds are spoken forms. The word ‘ball’ is written as ‘b-a-l-l’ and it is read or spoken as /b- ɔ-l/. Look the word is not read as /bi- ey-el- el/. Look at the number of letters and sound in the word ball. Does the word have equal number of letters and sounds? No, the words has four letters, ‘b-a-l-l’ but it has only three sounds /b- ɔ- l/. -The teacher shows flashcards for the word apple and ape. T: Look at these. Which letter do the words share? Ok what sound does the letter ‘a’ represents in the first word ‘apple’, in the second word ‘ape’? It represents the sound /a/ in the word apple and /e/ in the word ape. What did you understand from this? Great, the same letter can represent different sounds in English.
3	Practice Using phoneme chart with anchor words letters (10 minutes)	-The teacher models how a single letter is pronounced in differ ways and a single sound is represented with different sounds. T: Now we are going to practice reading the following words. Look at the following words Class and City. Who can read the words? Good the first word is /k-l-a-s/ and the second word is /s-t-i/. The first letter in both words is C do you think the letter C pronounced in the same way in the word Class and City? No, It has different pronunciations. Good now look at these words Kite and Coat the first letters of the words are different but the have the same sound /khhhh/. What did we learn from this? Good! In English a single letter can represent more than one sounds as in C letter and a single sound can be represented with different letters as in /khhhh/ sound.
4	Production (5 minutes)	-The teacher asks students to be in pairs and find a letter from Amharic or Sidamuu Affoo which can represent more than one sound.

	Teacher's Self- reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>
--	--

Week One Session Three
<i>Phonics- Consonants, vowels, blends and diagraphs</i>

Objective: This session is designed to teach consonant blends and diagraphs and vowel and consonant letters of English, as well as familiarize the students with terms that will be used (sounds; letters; vowels; consonants; diagraphs and blends).

* Teacher's language and scaffolding actions in italics.

Materials:

Alphabet chart with letters and sounds

Word cards

Letter cards

No	Activity	Description
1	Introduction (10 minutes) <i>Thumps up and thumps down. Blends and diagraphs game.</i>	-The teacher plays the 'Thumps up, thumps down' game with the students. T: <i>Alright, students now we are going to play a game. The name of the game is "thumps up, thumps down". Have you ever played this game? Good. Let's do Thumps up, thumps down together. (the teacher models) thumps up, thumps down. Now look at these words (teacher writes the following words with blends and diagraphs on the board, chair, click, ball, short, book, start, play, snake, sky, class) Now I am going to say each word very slowly. If the word starts with two letters you thump up and if it begins with a single letter you thumps down. Are you clear? Look at the word shop for example. The word shop begins with -sh letters, so we thumps up for it but the word pen begins with single letter -p, so we thumps down for it.</i> -The teacher says each word slowly and asks students to thumps up or thumps down for the word. <i>(NB: Teacher leads children orally through this activity).</i>
2	Presentation (15 mints)	The teacher introduces blends and diagraphs and vowel and consonant letters. -The teacher holds another pair of flash cards. Frog and Sheep. T: <i>Look the first word is frog, the second one is sheep. Both words have two initial</i>

	Letters, sounds, blends, diagraphs, vowels and consonants.	letters. The word <i>frog</i> begins with F and R letters read as /frr/ and <i>sheep</i> begins with s and h letters read as /shh/ sound. What did you learn from this? Good! Two letters can appear together representing two different sound and two letters can also represent one sound. In the word 'frog' 'f and r' letters represent two different sounds; /fhh/ and /rh/ where as in the word 'sheep' 's' and 'h' letters represent a single sound /f/. In English, if two letters come together and represent two different sounds like 'fl' in the word 'frog', they are called 'Blends'. If the two letters represent a single sound as in /f/ in the word 'sheep', they are called 'Diagraphs'. Do you know some more blends and diagraphs in English? Yes, for example cr, cl, br ch, sh, kn etc. <i>T:</i> In English we have 26 letters and more than 44 sounds. The sounds are grouped into consonant and vowel categories. There are 5 vowel letters and 21 consonant letters. Do you know the vowel letters? Alright. The vowel letters are 'a, e, i, o and u.' and all the rest are consonant letters.
	Teacher's Self- reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>	

Week Two Session One

Phonemic Awareness-sub-skills, phoneme segmentation

Objective: This session is designed to practice the phonemic awareness sub skills phoneme segmentation, and familiarizing the students with terms that will be used (segmenting; blending; deleting and substituting phonemes).

** Teacher's language and scaffolding actions in italics.*

Materials:

Alphabet chart with letters and sounds

Word cards
Letter cards

No	Activity	Description
1	Introduction (15 minutes) Oral work in phonemic awareness Segmentation game- Phoneme hopscotch game.	The teacher plays the ‘Phoneme Hopscotch’ game with the students. T: Alright, students now we are going to play a game. The name of the game is “phoneme hopscotch”. Have you ever played this game? Good. It is the same as the ‘segno maksegno’ game that you play. This is the ‘Segno makesegno playing court. (The teacher draws the court with a chalk on the floor of the classroom or outside of the classroom).Yesterday we learned that the number of letters and sounds in a given word are not always the same in English. Now one of you will come here and play the game. The rule of the game is that, first am going to say a word orally then the player listens and hops or jumps on one foot into the first empty square, and keeps going from there saying the sounds in the word and hops all the way to the court until s/he finishes the sounds in the word. When s/he finishes sounds, s/he hops or jumps with both feet. Remember now we practice sounds in words not letters. For example if I say ‘cat’, you make three hops (jumps) saying /k/, (you jump), /a/, (jump) and /t/ (final jump). The word has there sounds, so you make three jumps and listens for the second word. If you make two or more than three jumps, you lose and will be replaced by other student. Are you clear with the rule? Alright, let us go. (NB: Teacher leads the students orally through this game).
2	Presentation (10 mints) Introduce the phonemic awareness sub-skill; phoneme segmentation	-The teacher introduces the sub-skills of phonemic awareness, phoneme segmenting with examples. T: Alright. Students yesterday we talked about letters and sounds in the English language. We said that letters are written forms and sounds are spoken forms. Spoken words are built up with sounds. For example take the word ‘ball’. How many words does the word ball have? Great, it has three sounds. What are they? They are, / bbb/, /ooo/ and /l/. How did we know that the word ‘ball’ has three sounds? Simply by following three simple steps. First we hear, then we segment (identify) and count each sound in the word. This is called Segmentation skill. Segmentation is important to read and write a given word. Who can segment the word ‘man’? Yes /mmm/, /aaa/ and /n/.
3	Practice (10 minutes) Head, Shoulders, Knees, & Toes –Segmentation game	-The teacher plays different games with students to practice phoneme segmentation. T: Stand up and touch your head, shoulders, knees, and/or toes as I am saying the sounds in words. For example, the word “cat” would be /c/ (head), /a/ (shoulders), and /t/ (knees). Are you ready? Good, let us start. (The teacher starts with 2-phoneme words, like “at”, and as the students’ experiences success over time, adds 3, 4, and 5-phoneme words).
4	Production (5 minutes)	-The teacher asks students to segment the phonemes in the following words orally. T. Can you segment the sounds of the following words? 1. What are the two sounds in to? / , / 2. What are the three sounds in run? / , , / 3. What are the three sounds in keep? / , , / 4. What are the four sounds in black?/ , , , /

	Teacher's Self- reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenged faced in this session?</i> <i>What are the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>	

Week Two Session Two

Phonemic Awareness-sub-skills phoneme blending

Objective: This session is designed to practice the phonemic awareness sub skills phoneme blending and familiarizing the students with terms that will be used (phoneme blending).

** Teacher's language and scaffolding actions in italics.*

Materials:

Alphabet chart with letters and sounds

Word cards

Letter cards

No	Activity	Description
1	Introduction (10 minutes) <i>Oral work in phonemic awareness</i> <i>Phoneme blending game-“I spy with my little eyes”.</i>	T: Pick an item in the classroom, such as a pen. Then say: “<i>I spy with my little eye a p-e-n.</i>” The teacher asks the students to blend the sounds together to tell you what you see. The teacher can write the graphemes on the board to help students see the grapheme as they hear the phoneme. <i>(NB: Teacher continues with as many words as possible this game).</i>
2	Presentation (10 mints) Introduce the	-The teacher introduces the sub-skills of phonemic awareness, phoneme s blending with examples. <i>T: Alright. Students yesterday we talked about phoneme segmentation. We said</i>

	phonemic awareness sub-skills; phoneme blending	that words are built up with sounds. For example take the word 'black'. How many sounds does the word have? Great, it has four sounds. What are they? They are, / bbb/, /ll/, /aaa/ and /khhhh/. The second important skill is called Blending. To blend means to put together. To read the word 'man' first we have to identify the sounds /mmm-aaa-n/ and then put them together. For example, what word can we form with the sounds /fff/, /ll/, /aaa/ and /gggghh/? Good we form the word 'flag'.
3	Practice (10 minutes) - blending bingo game	-The teacher puts different phoneme cards on the ground face down and ask students to come and randomly turn up three cards, blend them and form a word. The student who forms a word that gives sense should say 'bingo' and win the game. N.B: the game continues until many words are formed.
4	Production (10 minutes)	-The teacher provides the following activity and asks students to blend the phonemes and form words. 1. What word is c-oa-t? _____. 2. What word is d-oo-r ? _____. 3. What word is s-t-i-ck? _____. 4. What word is ch-ai-r? _____.
	Teacher's Self- reflection Report What were the major activities covered in this session? What were the major challenged faced in this session? What are the measures taken to solve the challenges? What lessons did you learn for future improvement?	

Week Two Session Three

Phonemic Awareness-sub-skills, phoneme deletion and substitution

Objective: This session is designed to practice the phonemic awareness sub skills phoneme deletion and substitution and familiarizing the students with terms that will be used (phoneme deleting and substituting).

* Teacher's language and scaffolding actions in italics.

Materials:

Alphabet chart with letters and sounds

Word cards

Letter cards

No	Activity	Description
1	Introduction (10 minutes) <i>Oral work in phonemic awareness Segmentation game- Phoneme hopscotch game.</i>	The teacher plays the 'Phoneme substitution or rhyming' game with the students. <i>T: Alright, students now we are going to play a game. The name of the game is "phoneme substitution". Have you ever played this game? Now I am going to say a word then you listen and change the first sound of the word and tell me another word. Remember you only change the first sound of the word. Look if I say pig, then you can say big, wig, rig, tig and so on. Are you clear? Good. Let's start....Can</i> Students can say man, tan, ban, etc. <i>(NB: Teacher continues with different words and leads the students orally through this game).</i>
2	Presentation (10 mints) Introduce the phonemic awareness sub-skills; phoneme deletion, and substitution.	-The teacher introduces the sub-skills of phonemic awareness, phoneme segmenting and blending with examples. <i>T: Alright. Students yesterday we talked about Blending. To blend means to put together. To read the word 'man' first we have to identify the sounds /mmm-aaa-n/ and then put them together.</i> <i>T: Today we are going to practice another skill called phoneme deletion and phoneme substitution. When we omit or avoid sounds from a given word, we create another word in English. For example, if we avoid the first sound in the word 'meat', and say 'meat' without /m/, we create another word 'eat'. This is called Phoneme deletion. If we avoid the initial sound, it is called initial phoneme deletion, if we delete the last sound in the word, then it is called final phoneme deletion. Example, the word is 'bank' if we say the word 'bank', without the final sound /k/, we create another word says 'ban'.</i> <i>T: We can also form words by replacing the sound in a given word with other sounds. For example, if we replace the initial sound /k/ in the word 'car' with /b/, then we form another word 'bar'. This is called Phoneme substitution. What word can we form if we replace /k/ with /m/ in the word 'can?' Great, we create the word 'man'.</i>
3	Practice (10 minutes) Phoneme deletion and substitution games	-The teacher plays different games with students to practice phoneme deleting and substitution. <i>T: let us avoid the /s/ sound in the following words and create another word. For example, /mmmmmmmmssst/. Now avoid /s/ what is the new word? (mit). The teacher continues with Stop, Sand, Guest and Fast.</i> <i>T: say tān with /m/ instead of /t/. (man)</i> <i>T: What sound changed from sit to pit? /p/</i>

		<i>T: What sound changed from yes to yet? /t/</i> <i>T: What sound changed from bin to bun? /ü/</i> <i>The word slam became slap. How did the word change?</i>
4	Production (10 minutes)	1. fat—change f to c to make _____. 2. can—change c to m to make _____. 3. Say car. What word do we make if we change the c to an f? ____. 4. Say rope. What word do we make if we change the r to an s? ____. 5. fin—change n to t to make _____. 6. man—change n to p to make _____.
	Teacher's Self- reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenged faced in this session?</i> <i>What are the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>	

Week Three Session One

Onset, rime and rhyming words

Objective: This session is designed to provide insights on what rime is and the difference between rime and phoneme familiarize the students with terms that will be used (rhyming words, onset; rime; words; non words).

** Teacher's language and scaffolding actions in italics.*

Materials:

Alphabet chart with letters and sounds

Word cards

Letter cards

No	Activity	Description

1	Introduction (10 minutes) Oral work in rhyming	The teacher plays the ‘Word Bird’ game with the students. <i>T: Alright, students now we are going to play a game. The name of the game is “Word Bird”. Have you ever played this game? Good. The game is about forming rhyming words. Do you know what rhyming words are? Alright, rhyming words are words which have the similar sounds at the end. For example, ‘cat’ and ‘bat’ rhyme words because they both have similar sound /at/ at the end. The rule of the game is that a student first holds this ball, says a word and throws or tosses it to another student, then the student who catches the ball must generate a rhyming word and tosses the ball to another student and the game goes on like this. The ball is the word bird. Are you all clear on how to play the game? Great, listen I will start first ‘bat’</i> (NB: The teacher models the game. S/he throws the ball to a student and encourages a student to generate a rhyming word to his word ‘bat’ and throw the ball to someone else). <i>(NB: Teacher leads children orally through these tasks).</i>
2	Presentation (15 minutes) Introduce onset, rime and rhyming words	-The teacher introduces the target rime and the keywords, models their pronunciation and introduces the words onset and rime, and vowel, to describe the parts of the words and rhyming words. <i>T: Onset is the first sound in words. Like /m/ in man and a rime is the sounds that follow the onset. Like /an/ in ‘man’. Rimes are formed with a vowel sound followed by consonants. Look at the word ‘dog’. ‘d’ is the onset ‘o’ is the vowel and -og is the rime because it is formed with / o/ vowel and /g/ consonant sounds and read as a /og/. The letters ‘o’ and ‘g’ make the rime –og. Rimes begin with a vowel sound.</i> The teacher uses letter and rime cards to build the word, ‘pot’. <i>T: Look, I use the letter, ‘p’ and the rime -ot to build the word ‘pot’. Letter ‘p’ in the word ‘pot’ is called onset and –ot is the rime. If you add different onset to the rime –ot, you can form different words. For example n+ ot= not, d+ot= dot, z+ot=zot. Look the words pot, not and zot are called rhyming words because they share the same rime –ot. The word zot does not have meaning so it is called invented or non-word.</i>
3	Practice (10 minutes)	-The teacher plays ‘Odd one out’ game with students to practice identifying and generating rhyming words. <i>T: Stand now I am going say words and then you tell me which word is different. For example if cat mat mit, you say mit is odd. It means mit does not rhyme with cat and mat because the rime in mit is –it which is different from –at. Are you clear what to do? Great. Let’s go. fin, pin, kip...</i> (N.B. the teachers continues with three letters rime unit and more words).
4	Production (5 minutes) Word analysis	-The teacher asks students to do generate rhyming words for the following words. <i>T: what words rhyme with the following word?</i> A. man B. top C. map E. tip F. black

	Teacher's Self- reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What are the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>	

Week Three Session Two

Segmenting and blending onset-rimes

Objective: This session is designed to provide insights on how to segment and blend onset-rime units and familiarize the students with terms that will be used (onset; rime; onset-rime segmenting, onset-rime blending).

** Teacher's language and scaffolding actions in italics.*

Materials:

Small ball
Rime chart
Laminated word cards
Letter cards
Rime cards

No	Activity	Description
1	Introduction (10 minutes) <i>Oral work in breaking words into onset / rime units</i>	The teacher plays the 'Head shoulder' game with the students. <i>T: Alright, students now we are going to play a game. The name of the game is "Head shoulder". Have you ever played this game? Good. The game is about breaking down words into onset and rime.</i> <i>-The teacher plays head and shoulder game with students to practice segmenting words into onset and rime.</i> <i>T: Stand up and touch your head and shoulders as I am saying the words. For example, the word 'cat' would be /k/ (head), and /at/ (shoulders), Are you ready? Good, let us start. (NB: The teacher starts with 2-letters rimes, like "an" in 'man', and as the students' experiences success over time, adds 3 letter rimes like 'ing' in</i>

		'king'). (NB: Teacher leads children orally through these tasks).															
2	Presentation (15 minutes) Introduce onset, rime	-The teacher introduces the target rime and the key words and models their pronunciation and breaks the words into onset and rime, to describe the parts of the words. <i>T: Alright last session we said that Onset is the first sound in words like /k/ in cat and rime is the vowel and any consonants after it. Example, look at the word 'dog'. 'd' is the onset 'o' is the vowel and -og is the rime because it is formed with / o/ vowel and /g/ consonant sounds and read as /og/. The letters 'o' and 'g' make the rime -og. Rimes begin with a vowel sound. Therefore, when we break words into two we get one onset and one rime. For example if we break 'cup' we get c-up. 'c' is an onset and -up is a rime. If we put onset and rime together then we make a word.</i> The teacher uses letter and rime cards to build the word, 'star'. <i>T: Look, I use the onset 'st' and the rime -ar to build the word 'star'. Sometimes an onset has more than one sounds like 'st'. do you remember the name for letters like 'st'? Excellent they are called diagraphs.</i>															
3	Practice (10 minutes)	<i>T: Let's play the head shoulder game again. Stand up and play together. Head is for onset and shoulder is for rime. This time we will change the pattern head will be for the rime and shoulder will be for the onset. Are you clear? Alright let's start bank. (The teacher this time uses word with three rime units and plays the game very quickly).</i>															
4	Production (5 minutes)	<i>T: Can you identify the onset and rime of the following words and complete the table? (The teacher draws the table on the board.</i> <table> <tr> <th>Word</th><th>Onset</th><th>Rime</th></tr> <tr> <td>nest</td><td>/n/</td><td>/ /</td></tr> <tr> <td>king</td><td>/ /</td><td>/ing/</td></tr> <tr> <td>nail</td><td>/n/</td><td>/ /</td></tr> <tr> <td>frog</td><td>/ /</td><td>/og/</td></tr> </table>	Word	Onset	Rime	nest	/n/	/ /	king	/ /	/ing/	nail	/n/	/ /	frog	/ /	/og/
Word	Onset	Rime															
nest	/n/	/ /															
king	/ /	/ing/															
nail	/n/	/ /															
frog	/ /	/og/															
	Teacher's Self- reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What are the measures taken to solve the challenges?</i>																

	What lessons did you learn for future improvement?
--	--

Week Three Session Three

The 37 dependable rime units

Objective: This session is designed to provide insights on the 37 rime units and analogy reading strategy.

** Teacher's language and scaffolding actions in italics.*

Materials:

Rime chart
Letter cards
Rime cards
Storage bags
Sound box

No	Activity	Description
1	Introduction (10 minutes) Oral work in rhyming Breaking words into onset / rime units-revision	<i>T: In the last two sessions, we talked about onset, rime, rhyming words, segmenting and blending onset and rime units. Do you remember what rhyming words are? Alright, rhyming words are words which have the similar sounds at the end. For example, 'cat' and 'bat' rhyme words because they both have similar sound /at/ at the end. Who can remind us what onset and rime are? Brilliant. Onset is the first sound in words and rime is the sounds that follow onset. Rime always begins with vowel sounds.</i> <i>-The teacher segments, blends, deletes and substitutes onset and rimes orally to revise lessons from the last session.</i> <i>Say: Listen, If I break down the word 'bat' I will get /bhh/ and /at/ sounds. Say after me /b- at/, /b-at/. Who can blend / bhh-an/ and form a word? What will happen if we avoid the sound /bhh/ from the word 'ban'? What will happen if we replace /bhh/ with /khh/ in the word 'ban'? Great, we get the word 'can'.</i> <i>(NB: Teacher leads children orally through these tasks).</i>
2	Presentation (10 minutes) Introduce onset, rime and vowel and the 37 dependable rimes	<i>-The teacher introduces the 37 dependable rime units and models how to read words by analogy.</i> <i>T: Look, I use the onset 'st' and the rime -ar to build the word 'star'. If you read 'star' then you can also read 'flar' because both words have the same rime-ar. This is called reading by analogy. Analogy means similarity. Rimes are important parts of a word which help us to read new words by analogy. Look, the word 'flar' is a non-word. Non-words are words which do not have meanings) but we can still read it because we know a word 'star' which shares the same rime -ar with the new word</i>

		<i>'flar'.</i> In this program we are going to study 37 very important rime units and practice how to read new words using these rime units as clue. (NB: The teacher shows the rime chart with the 37 dependable rime units and models and drills their pronunciation). <i>T: look these are the 37 rime units that we are going to study in this program. Now I am going to say each of them and you will say after me. (NB: The teacher points to each rime unit and models its pronunciation).</i>
3	Practice (10 minutes)	-The teacher practice pronouncing the rime units with students and making them familiar with most of the rime units. <i>T: Now we are going to practice reading each of the rime units from the chart. Now say after me. (The teacher practice reading the rime units in chores). Who can read this? (The teacher point to each of the rime unit and make students read).</i>
4	Production (10 minutes) Word formation	<i>T; Now select three rime units from the chart and form words individually by adding your own onset.</i>
	Teacher's Self- reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What are the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>	

Week Four Session One

Rime unit -at

Objective: This session is designed to teach the lesson routines, as well as the content, familiarizing the students with terms that will be used (onset; rime; sentence; sounds; words; non words; blending; segmenting; diagraphs and blends).

The rime chosen for this session, as a starting point, is less challenging just to build up the students' confidence with both the content and procedures.

** Teacher's language and scaffolding actions in italics.*

Materials:

No	Activity	Description
1	Introduction (5 minutes) Oral work in rhyming Breaking words into onset / rime units	The teacher plays the 'Odd man out' game with the students. <i>T: Alright, students now we are going to play a game. The name of the game is "odd man out". Have you ever played this game? Good. What does 'odd' mean? Can anyone tell me? Ok odd means different. Now I am going to say three words then you listen carefully and tell me which word is odd or different and why. Are you all clear about how to play? Great, listen, 'hat', 'can', mat. Listen again 'hat', 'can', 'mat'.</i> <i>Which word is different? Good can is different because 'can' does not rhyme with 'hat' and 'mat'. Rhyming words are words which share similar sounds at the end. Example, 'cat' and 'hat'. The final sound for both words is the same '-at' so the words are called rhyming words. Ok, listen again, 'can' and 'man'. Do they rhyme? What rhymes with ... 'man?', 'cat?' 'bag?' or 'can'?</i> <i>-The teacher segments the words orally.</i> <i>T: Listen, If I break down the word 'hat' I will get /hhh/ and /at/ sounds. Say after me /h- at/, /h-at/, 'hat', Who can break down the word 'ran'? /rhhh/ and /an/, 'ran'. Great.</i> <i>(NB: Teacher leads children orally through these tasks, noting any children having difficulty with the oral tasks).</i>
2	Presentation (5 minutes) Introduce 'at' rime mat, flat, chat Build key/ target words	-The teacher introduces the target rime and the keywords, models their pronunciation and introduces the words onset and rime, and vowel, to describe the parts of the words. <i>T: Alright. Today we are going to practice the rime 'at' and the words we build with 'at'. This is how we pronounce the rime and the words. The rime has two letters 'a' and 't' and it also has two sounds /ah/ and /th/. It is pronounced as /at/. Say after me /at/. (The teacher points to the rime unit and each target word and models their pronunciation).</i> <i>T: Onset is any consonant sound before a vowel in a word; rime is the vowel and any consonants after it. For example, look at the word 'rat'. /rhhh/ is the onset /a/ is the vowel and /at/ is the rime. It is formed with /a/ vowel and /thh/ consonant and read as a single sound unit /at/. The letters 'a' and 't' make the rime -at. Rimes begin with a vowel.</i> -The teacher uses letter and rime cards to build the first target word, 'mat'. <i>T: Look, I use the letter 'm' and the rime -at to build the word 'mat'.</i>
3	Practice (15 minutes) Using letters Using phonological structure	-The teacher models building target words, students then use letter and rime cards and build the other words. <i>T: Now who can come and build the words 'sat', 'flat', 'chat?'</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern.

	Rhyming words and tongue twisters Using structure Phonemic	<i>T: Look, I can make other words with -at rime.</i> bat, rat, pat, flat, chat <i>If you read bat you can also read 'flat' because they both have -at rime.</i> <i>T: Say after me (NB: Drill the words first slowly, then quickly and finally very quickly).</i> -Teacher writes the following tongue twister containing the key words (I saw a fat cat eating rat on a mat) and models its reading first and drills with the students and finally asks students to read in chors with different speed. <i>T: Look at the sentence. Listen, first I will read the sentence alone, then we will read it together and finally you read alone.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -The teacher segments the key words into sounds and talks about how 'ch' says / tʃ /. Writes the words 'flat' and 'chat' and the diagraph 'ch' and the blend 'fl' on the board. <i>T: Look at how 'flat' and 'chat' vary in number of sounds even though they both have equal number of letters (four letters).</i> <i>The word 'flat' has four sounds /fhh-lhh-a-thh/ but the word 'chat' has three sounds / tʃhh- a-thh/. In the word 'chat' the first two consonant letters 'c' and 'h' make a single sound / tʃ /. If two letters make one sound, they are called diagraphs. In the word 'flat' the onset has two consonant letters represent two different sounds /fhh/ and /lhh/. These are called blends.</i>
4	Production (15 minutes) Word Analysis Generating and reading rhyming words	-The teacher models how to analyze the key/target words by completing the word analysis template. Then the teacher asks students to select a word and complete the word analysis template from the students' activity booklet. <i>T: Now I am going to analyze the word 'sat' using my word analysis template (first draw the template on the board).</i> 1. The word is <u>sat</u>. 2. I hear 3 sounds /<u>s-a-t</u>/. 3. I see 3 letters (<u>s, a and t</u>). 4. The spelling pattern is <u>s-at</u>. 5. The vowel is <u>a</u>. 6. Another word similar to sat is <u>mat</u>. They are alike because they have <u>at</u> rime. <i>T: Ok now select one word from the list and complete your word analysis template in on your activity booklet.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher lists as many rhyming words with the target rime -at on the board (the words can include non-words), models their reading and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet. <i>T: Look at these words.</i> cat, rat, sat, mat, fat, flat, brat, chat, bat, dat <i>T: Are the words alike? What makes them similar and different? Good, these words are similar because they share the same rime -at so they are called rhyming words. They differ only in their initial consonant sounds. Therefore, if you read one of the words then you can read the others. Can you generate other words share the rime -at and add to the list of words?</i>

	Spelling with Elkonin box <i>T: Look at the final word ‘dat’. Do you know its meaning? The word is called invented or non-word. It is not a real word. So it has no meaning. Non-words are words that have no meaning. You can also generate non-words and add to the word list. When you finish, you will read your lists to the class. When you read you have to use the starter “If I know, (e.g. mat), then I know (e.g. sat).</i> (NB: Can the students generate, write and read rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). -The teacher models how to practice the spellings of the key/target words by completing the Elkonin box. Then the teacher guides students to select a word and complete the Elkonin box in the students’ activity bookplate. <i>T: Now I am going to practice the spelling of the words ‘flat’ and ‘chat’ using my Elkonin box template (NB: The teacher first draws the template on the board).</i> <table><tr><td>f</td><td>l</td><td>a</td><td>T</td><td>X</td></tr><tr><td>ch</td><td>a</td><td>t</td><td>X</td><td>X</td></tr></table> <i>T: Ok! Now select two or three key/target words with –at rime from the list and complete your Elkonin box in on your activity bookplate. Remember you write one sound per box not letter but sound and put ‘X’ in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. Making orthographic - phonemic links <i>T: The words have shared rime (-at) and differ only in their initial consonant sounds. If you read flat you can also read chat because they all have –at. We can also add other sounds and build the words. For example we can add /-s / sound to the word mat and make it ‘mats’ we can also add /-er/ and make the word ‘chat’ ‘chatter’. Can you add sounds onto the other words in the list and build the words?</i> (NB: Teacher scaffolds this task, by modeling, building words gradually, i.e. begin by adding single consonants, then building onto ends of words, such as ‘mats’; extend to ‘chatter’).	f	l	a	T	X	ch	a	t	X	X
f	l	a	T	X							
ch	a	t	X	X							
Teacher’s Self- reflection Report What were the major activities covered in this session? What were the major challenges faced in this session? What were the measures taken to solve the challenges? What lessons did you learn for future improvement?											

Week Four Session Two

Rime unit -an

Objective: This session is designed to reinforce the lesson routines, as well as the content, familiarizing the students with terms that will be used (onset; rime; sentence; sounds; words; non words; blending; segmenting; diagraphs and blends).

The rime chosen for this session, as a starting point is less challenging just to build up the students' confidence with both the content and procedures.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher plays the 'Odd man out' game with the students. <i>T: Alright, students now we are going to play a game. The name of the game is "odd man out". Have you ever played this game? Good. What does odd mean? Can anyone tell me? Ok 'odd' means different. Now I am going to say three words then you listen carefully and tell me which word is odd or different and why. Are you all clear about how to play? Great, listen, 'sat', 'pan', 'rat'. Listen again 'sat', 'ran', 'rat'.</i> <i>T: Which word is different? Good, 'ran' is different because 'ran' does not rhyme with 'sat' and 'rat'. Rhyming words are words which share similar sounds at the end. For example, 'sat' and rat. The final sound for both words is the same (-at) so we call them rhyming words. Ok, do these words rhyme? can, man? What rhymes with ... man, cat, bag or can?</i> -The teacher segments the words orally Say: Listen, If I break down the word bag I will get /bhh/ and /ag/ sounds. Say after me /bhh-ag/, /bhh-ag/ bag. Who can break down the word 'can'? /khh-an/ 'can'. Great. (NB: Teacher leads children orally through these tasks, noting any children having difficulty with the oral tasks).
2	Presentation (5 minutes) Introduce 'an' rime can, ban, than, plan Build key/ target words	- The teacher introduces the target rime and the key words, models their pronunciation and reminds the words onset and rime, and vowel, to describe the parts of the words. <i>T: Alright. Today we are going to practice the rime 'at' and the words we build with 'an'. This is how we pronounce the rime and the words. Say after me (the teacher points to the rime unit and each target word and model their pronunciation./a-n/, /an/.</i> Onset is any consonant sound before a vowel in a spoken word; rime is the vowel and any consonants after it. Example, look at the word can. c is the onset a is the vowel and -an is the rime because it is formed with a (vowel) and n consonant. The letters a and n make the rime -an. Rimes begin with a vowel. The teacher use letter and rime cards to build the first target word, can.

		<i>T: I use the letter c and the rime -an to build the word can.</i>
3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	The teacher models building target words, students then use letter and rime cards and build the other words. <i>T: Now who can come and build the word ban, than and plan?</i> - The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with -an rime.</i> ban, ran, bran, man, than, span <i>T: If you read ran then you can also read bran because both words have -an.</i> Say after me (NB: Drill the words first slowly then quickly and finally very quickly). -The teacher writes the following tongue twister containing the key words. (The man can fan the fan than the woman) Write the sentence on the board and models its reading first and drill with the students and finally ask students to read in chores with different speed. <i>T: Look at the sentence. Listen first I will read the sentence then we will read together and finally you read alone.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -The teacher segments the key words into sounds and talks about how th says 'th'. Writes the words than and span and the diagraph th on the board. <i>T: Look at how than and span vary in number of sounds, even though they both have four letters.</i> <i>The word than has three sounds /th-a-n/ but the word span has four sounds /s-p-a-n/. In the word than the first two consonant letters t and h make a single sound /th/. If two letters make one sound in English they are called diagraphs. In the word span the onset has two consonant letters represent two different sounds /s/ and /p/. These are called blends in English.</i>
4	Production (15 minutes) <i>Word Analysis</i>	-The teacher models how to analyze the key/target word by completing the word analysis template. Then the teacher asks students to select a word and complete the word analysis template in the students' activity booklet. <i>T: Now I am going to analyze the word span using my word analysis template (first draw the template on the board).</i> 1. The word is span. 2. I hear 4 sounds /s-p-a-n/. 3. I see 4 letters (s, p, a and n). 4. The spelling pattern is sp-an 5. The vowel is a. 6. Another word similar to span is plan. They are alike because they have -an rime. <i>T: Ok now select one word from the list and complete your word analysis template in your activity booklet.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class).

	What are the measures taken to solve the challenges? What lessons did you learn for future improvement?
--	---

Week Four Session Three

Rime unit -ot

Objective: This session is designed to reinforce the lesson routines, as well as the content, familiarizing the students with terms that will be used (onset; rime; sentence; sounds; words; non words; blending; segmenting; diagraphs and blends).

The rime chosen for this session, as a starting point is less challenging just to build up the students' confidence with both the content and procedures.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher plays the 'Rhyme memory' game with the students to revise the rime unit and key words from the last session. T: <i>Ok! Students now we are going to play a game. The name of the game is "rhyme memory game". Have you ever played this game? Goo, it is a game in which two or more students compete. The rule of the game is that a teacher says a word and each competing student calls a word that rhymes with a given word in turns (calls a word which shares similar rime unit with the target word). A student who fails to say a rhyming word will lose and be replaced by another student. Finally a student who calls more words will win. Are you all clear about the rule of the game? Great, listen, I need two students who want to play the game. Good, now let us start. Listen the word is 'cat' you (pointing to the first student) call a word which rhymes with 'cat' and then you (pointing to the second student) you call another rhyming word with cat.</i> <i>(NB: Teacher points to the first student...then the second...then the first...the game goes on until one of the students fails to say).</i> -The teacher blends / segments the words orally Say: <i>Listen, if I break down the word that into onset and rime, I will get / ðhh/ and /at/ sounds. Say after me /ðhh – at/, that. Who can break down the word 'flat?' /fhh-lhh-at/. Who can blend /shh-at/ sounds and make a word?</i> <i>(NB: Teacher leads children orally through these tasks, noting any children having difficulty with the oral tasks).</i>

2	Presentation (15 minutes) Introduce ‘ot’ rime pot, hot, lot, cot, shot, trot Build key/ target words	-The teacher introduces the target rime and the key words, models their pronunciation and reminds the words onset and rime, and vowel, to describe the parts of the words. <i>T: Alright today we are going to practice the rime ‘ot’ and the words we build with ‘ot’. This is how we pronounce the rime and the words. Say after me (the teacher points to the rime unit and each target word and model their pronunciation / vt/ / vt/.</i> Onset is any consonant sound before a vowel in a spoken word; rime is the vowel and any consonants after it. For example, look at the word ‘pot’. /phhh/ is the onset / v/ is the vowel and /ot/ is the rime because it is formed with ‘o’ (vowel) and ‘t’ consonant. The letters ‘o’ and ‘t’ make the rime -ot. Rimes begin with a vowel. The teacher uses letter and rime cards to build the first target word, ‘pot’. <i>T: I use the letter ‘p’ and the rime -ot to build the word ‘pot’.</i>
3	Practice (15 minutes) <i>Using letters</i> <i>Using structure</i> <i>phonological</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	-The teacher models building target words, students then use letter and rime cards and build the other words. <i>T: Now who can come and build the word hot, lot, cot, pot, got, trot and shot?</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with -ot rime.</i> blot, clot, cot, got, spot <i>T: If you read cot then you can read ‘blot’ because they have the same rime – ot.</i> <i>T: Say after me (NB: Drill the words first slowly then quickly and finally very quickly).</i> -Teacher writes the following tongue twister that contains the key words (She got a hot pot) and models its reading first and drills with the students and finally asks students to read in chors with different speed. <i>T: Look at the sentence. Listen first I will read the sentence then we will read together and finally you read alone.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -The teacher segment the key words into sounds and talks about how ‘sh’ says / f/ . Writes the words ‘shot’ and ‘clot’ and the diagraph ‘sh’ on the board. <i>T: Look at how clot and shot vary in number of sounds, even though they both have four letters.</i> <i>The word clot has four sounds /khh-lhh-o-t/ but the word ‘shot’ has three sounds / fhh -o-t/. In the word ‘shot’ the first two consonant letters ‘s’ and ‘h’ make a single sound / f/. If two letters make one sound in English they are called diagraphs. In the word clot the onset has two consonant letters represent two different sounds /k/ and /l/. These are called blends in English.</i>
3	Production (15 minutes)	The teacher models how to analyze the key/target words by completing the word analysis template. Then the teacher asks students to select a word and complete the word analysis template in the students’ activity bookplate.

	phonemic links	<i>begin by adding single consonants, then building onto ends of words, such as 'pots'; extend to 'hotter').</i>
	Teacher's self- Reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>	

Week Five Session one

Rime unit -op

Objective: This session is designed to reinforce the lesson routines, as well as the content, familiarizing the students with terms that will be used (onset; rime; sentence; sounds; words; non words; blending; segmenting; diagraphs and blends).

The rime chosen for this session, as a starting point is less challenging just to build up the students' confidence with both the content and procedures.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher plays the 'Rhyme memory' game with the students to revise the rime unit and key words from the last session. T: <i>Ok! Students now we are going to play a "rhyme memory game." Great listen, I need two students who want to play the game. Good now let us start. Listen the word is 'pan', now say as many rhyming words as possible.</i> <i>(NB: Teacher points to the first student...then the second...then the first...the game goes on until one of the students fails to say).</i>

		-The teacher blends / segments the words orally Say: listen, If I break down the word 'pan' into onset and rime, I will get /phh/ and /-an/ sounds. Say after me / phh- an/, 'pan'. Who can break down the word span? /shh-phh-an/, span. (NB: Teacher leads children orally through these tasks, noting any children having difficulty with the oral tasks).
2	Presentation (15 minutes) Introduce 'op' rime hop, lop ,mop, sop, crop, shop Build key/ target words	-The teacher introduces the target rime and the key words, models their pronunciation and reminds the words onset and rime, and vowel, to describe the parts of the words. <i>T: Alright! Today we are going to practice the rime 'op' and the words we build with 'op'. This is how we pronounce the rime and the words. Say after me (the teacher points to the rime unit and each target word and model their pronunciation). /b-p/, /vp/.</i> <i>T: If you read 'hop', then you can read 'pop' because both words have -op.</i> <i>T: Onset is any consonant sound before a vowel in a spoken word; rime is the vowel and any consonants after it. Example, look at the word 'hop. /h/ is the onset /o/ is the vowel and -op is the rime because it is formed with /o/ (vowel) and /p/ consonant. The letters 'o' and 'p' make the rime -op. Rimes begin with a vowel.</i> The teacher uses letter and rime cards to build the first target word, hop. <i>T: I use the letter 'h' and the rime -op to build the word hop.</i>
3	Practice (15 minutes) <i>Using letters</i> <i>Using structure phonological</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	-The teacher models building target words, students then use letter and rime cards and build the other words. <i>T: Now who can come and build the word lop, sop, shop and crop?</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with -op rime. chop, stop, drop, flop, lop, mop, prop</i> <i>Say after me (NB: Drill the words first slowly then quickly and finally very quickly.</i> -The teacher writes the following tongue twister containing the key words. (I shop lop and chop from the top). Write the sentence on the board and models its reading first and drill with the students and finally ask students to read in chores with different speed. <i>T: Look at the sentence. Listen first I will read the sentence then we will read together and finally you read alone.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -The teacher segments the key words into sounds and talks about how 'sh' says /ʃ/. Writes the words 'shop' and 'crop' and the diagraph 'sh' on the board. <i>Say: Look at how 'shop' and 'crop' vary in number of sounds, even though they both have four letters.</i>

		The word shop has three sounds /f- o-p/ but the word crop has four sounds /k-r-o-p/. In the word shop the first two consonant letters s and h make a single sound /f/. If two letters make one sound in English they are called diagraphs. In the word 'crop' the onset has two consonant letters represent two different sounds /khh/ and /rhh/. These are called blends in English.										
3	Production (15 minutes) Word Analysis Generating and reading rhyming words Spelling with Elkonin box	-The teacher models how to analyze the key/target word and complete the word analysis template. Then the teacher asks students to select a word and complete the word analysis template from the students' activity bookplate. T: Now I am going to analyze the word stop using my word analysis template (first draw the template on the board). 1. The word is <u>stop</u>. 2. I hear 4 sounds <u>/s-t-o-p/</u>. 3. I see 4 letters <u>(s, t, o and p)</u>. 4. The spelling pattern is <u>st-op</u> 5. The vowel is <u>o</u>. 6. Another word similar to stop is <u>crop</u>. They are alike because they have <u>-op</u> rime. T: Ok! Now select one word from the list and complete your word analysis template in your activity booklet. (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher lists as many rhyming words with the target rime -op on the board. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet. T: Look at these words. top, bop, cop, slop, sop Are the words alike? What makes them similar? Good these words share the same rime -op so they are called rhyming words. Can you generate words share the rime -op and add to the list of words. Look at the word fop. Do you know its meaning? The word is called invented or non-word. It is not a real word. So it has no meaning. Non-words are words that have no meaning. You can also generate non-words and develop the word list. (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). -The teacher models how to practice the spellings of the key/target words by completing the Elkonin box. Then the teacher guides students to select a word and complete the Elkonin box from the students' activity bookplate. T: Now I am going to practice the spelling of the words top and shop using my Elkonin box template (first draw the template on the board). <table><tr><td>t</td><td>op</td><td>X</td><td>X</td><td>X</td></tr><tr><td>sh</td><td>op</td><td>X</td><td>X</td><td>X</td></tr></table>	t	op	X	X	X	sh	op	X	X	X
t	op	X	X	X								
sh	op	X	X	X								

		Say: <i>Ok now select two or three key/target words with –an rime from the list and complete your Elkonin box in Activity 2.3.3 on your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. Say: <i>the words have shared rime (-an) and differ only in their initial consonant sounds. We can also add other sounds and build the words. For example we can add /-ed / sound to the word 'stop' and make it 'stopped'.</i> (NB: Teacher scaffolds this task, by modeling, building words gradually, i.e. begin by adding single consonants, then building onto ends of words, such as 'crops'; extend to 'stopped').
	Making orthographic – phonemic links	
	Teacher's Self- reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>	

Week Five Session Two

Rime unit -ap

Objective: This session is designed to reinforce the lesson routines, as well as the content, familiarizing the students with terms that will be used (onset; rime; sentence; sounds; words; non words; blending; segmenting; diagraphs and blends).

The rime chosen for this session, as a starting point is less challenging just to build up the students' confidence with both the content and procedures.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	The teacher plays the ‘Rhyme memory’ game with the students to revise the rime unit and key words from the last session. T: <i>Ok! Students now we are going to play a “Rhyme memory game.” Great listen, I need two students who want to play the game. Good now let us start. Listen the word is ‘pop’ you say as many rhyming words as possible.</i> (NB: Teacher points to the first student...then the second...then the first...the game goes on until one of the students fails to say). -The teacher blends / segments the words orally T: <i>listen, If I break down the word ‘pop’ into onset and rime, I will get /phh/ and /op/ sounds. Say after me / phh- op/, pop. Who can break down the word ‘stop’?</i> (NB: Teacher leads children orally through these tasks, noting any children having difficulty with the oral tasks).
2	Presentation (5 minutes) Introduce ‘ap’ rime cap, gap, sap, tap, map, chap, clap Build key/ target words	-The teacher introduces the target rime and the key words, models their pronunciation and reminds the words onset and rime, and vowel, to describe the parts of the words. T: <i>Alright! Today we are going to practice the rime ‘ap’ and the words we build with ‘ap’ rime. This is how we pronounce the rime and the words. Say after me (the teacher points to the rime unit and each target word and model their pronunciation). /a-p/, /ap/.</i> Onset is any consonant sound before a vowel in a spoken word; rime is the vowel and any consonants after it. Example, look at the word ‘cap’. /K/ is the onset /a/ is the vowel and -ap is the rime because it is formed with /a/ (vowel) and /p/ consonant. The letters ‘a’ and ‘p’ make the rime -ap. Rimes begin with a vowel. The teacher uses letter and rime cards to build the first target word, <i>map</i>. T: <i>I use the letter ‘m’ and the rime -ap to build the word ‘map’.</i>
3	Practice (15 minutes) <i>Using letters</i> <i>Using structure</i> <i>phonological</i> <i>Rhyming words and tongue twisters</i>	-The teacher models building target words, students then use letter and rime cards and build the other words. T: <i>Now who can come and build the word cap, tap, chap and clap?</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: <i>Look, I can make other words with -ap rime.</i> nap, scrap, tap, trap, wrap, chap Say after me (NB: Drill the words first slowly then quickly and finally very quickly). -The teacher writes the following tongue twister containing the key words. (They trap, tap and wrap the animal) Write the sentence on the board and models its reading first and drill with the students and finally ask students to read in chores with different speed.

		<table><tr><td>c</td><td>A</td><td>p</td><td>X</td><td>X</td></tr><tr><td>t</td><td>R</td><td>a</td><td>p</td><td>X</td></tr></table> T: <i>Ok! Now select two or three key/target words with –ap rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put ‘X’ in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: <i>The words have shared rime (-an) and differ only in their initial consonant sounds. We can also add other sounds and build the words. For example we can add /–er / sound to the word ‘trap’ and make it ‘trapper’.</i> (NB: Teacher scaffolds this task, by modeling, building words gradually, i.e. begin by adding single consonants, then building onto ends of words, such as ‘caps’; extend to ‘trapper’).	c	A	p	X	X	t	R	a	p	X
c	A	p	X	X								
t	R	a	p	X								
	Teacher’s Self- reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>											

Week Five Session Three

Rime unit -ip

Objective: This session is designed to reinforce the lesson routines, as well as the content, familiarizing the students with terms that will be used (onset; rime; sentence; sounds; words; non words; blending; segmenting; diagraphs and blends).

The rime chosen for this session, as a starting point is less challenging just to build up the students' confidence with both the content and procedures.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher plays the ‘I spy’ game with the students to revise the rime unit and key words from the last session. T: <i>Ok! Students now we are going to play a game called “I spy game.” Have you ever played this game? Do you know the meaning of the word spy? Great A spy is someone who hides him/herself and gathers information about something. Now I will give you some hints about words from the last session. You guess the word using the hint. If you know the word, shout I spy and tell the word to the class. Are you ready to play the game? Good now let us start. Listen, I have a word in my mind the word has -an rime, four letters and three sounds. Who can guess the word? If you know it begin with the phrase I spy the word is.....</i> (NB: Teacher continues the game with different words). -The teacher blends / segments the words orally Say: <i>listen, If I break down the word ‘shop’ into onset and rime, I will get /ʃ/ and /op/ sounds. Say after me / ʃ - op/, shop. Who can break down the word stop? / s-t-op/ stop. Who can blend /n-o- p/ and make a word?</i> (NB: Teacher leads children orally through these tasks, noting any children having difficulty with the oral tasks).
2	Presentation (5 minutes) Introduce ‘ip’ rime dip, hip, flip, clip, chip Build key/ target words	-The teacher introduces the target rime and the key words, models their pronunciation and reminds the words onset and rime, and vowel, to describe the parts of the words. T: <i>Alright! Today we are going to practice the rime ‘ip’ and the words we build with ‘ip’ rime. This is how we pronounce the rime and the words. Say after me (the teacher points to the rime unit and each target word and model their pronunciation). /ɪ- p/, /ip /.</i> T: <i>Onset is any consonant sound before a vowel in a spoken word; rime is the vowel and any consonants after it. Example, look at the word ‘dip’. /dhh/ is the onset /ɪ/ is the vowel and -ip is the rime because it is formed with /ɪ/ (vowel) and /phh/ consonant. The letters li/ and /p/ make the rime -ip. Rimes begin with a vowel.</i> The teacher uses letter and rime cards to build the first target word, ‘hip’. Say: <i>I use the letter ‘h’ and the rime -ip to build the word hip.</i>
3	Practice Using letters (15 minutes) Using phonological structure	-The teacher models building target words, students then use letter and rime cards and build the other words. T: <i>Now who can come and build the word dip, flip, chip and clip?</i> - The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern.

	Rhyming words and tongue twisters Using Phonemic structure	T: Look, I can make other words with -ip rime. grip, lip, nip, rip, ship, sip, skip Say after me (NB: Drill the words first slowly then quickly and finally very quickly). -The teacher writes the following tongue twister containing the key words. (I trip to the tip for a clip) Write the sentence on the board and models its reading first and drill with the students and finally ask students to read in chores with different speed. T: Look at the sentence. Listen first I will read the sentence then we will read together and finally you read alone. (NB. Teacher notes whether the students can say sentences, and make rhymes). -The teacher segments the key words into sounds and talks about how ‘sh’ says /ʃ/. Writes the words ‘ship’ and ‘clip’ and the diagraph /ʃ/ on the board. T: Look at how clip and ship vary in number of sounds, even though they both have four letters. The word clip has four sounds /k-l-i-p/ but the word ship has three sounds /sh-i-p/. In the word clip the first two consonant letters c and l make two consonant sounds /k and l/. These are called blends in English. If two letters make one sound in English they are called diagraphs. In the word ship the onset has two consonant letters ‘s’ and ‘h’ represent one sound /ʃ/.
4	Production (15 minutes) Word Analysis Generating and reading rhyming words	-The teacher models how to analyze the key/target word and complete the word analysis template. Then the teacher asks students to select a word and complete the word analysis template from the students’ activity booklet. T: Now I am going to analyze the word ‘ship’ using my word analysis template (first draw the template on the board). 1. The word is ship. 2. I hear 3 sounds /sh-i-p/. 3. I see 4 letters (s, h, i and p). 4. The spelling pattern is sh-ip 5. The vowel is i. 6. Another word similar to ship is clip. They are alike because they have -ip rime. T: Ok! Now select one word from the list and complete your word analysis template in your activity booklet. (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher lists as many rhyming words with the target rime -ip on the board. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet. T: Look at these words. bip, dip, hip, flip, clip, chip, grip, lip, nip, rip, ship, sip, skip, crip Are the words alike? What makes them similar? Good these words share the same rime -ip so they are called rhyming words. Can you generate words share the rime -ip and add to the list of words. Look at the first and final words ‘bip’ and ‘crip’. Do you know their meanings? The words are called invented or non-word. They are not real words. So they

	<i>have no meaning. Non-words are words that have no meaning. You can also generate non-words and develop the word list.</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). -The teacher models how to practice the spellings of the key/target words by completing the Elkonin box. Then the teacher guides students to select a word and complete the Elkonin box from the students' activity booklet. Spelling with Elkonin box T: <i>Now I am going to practice the spelling of the words chip and clip using my Elkonin box template (first draw the template on the board).</i> <table><tr><td>ch</td><td>i</td><td>p</td><td>X</td><td>X</td></tr><tr><td>c</td><td>l</td><td>i</td><td>p</td><td>X</td></tr></table> T: <i>Ok! Now select two or three key/target words with -ip rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: <i>The words have shared rime (-ip) and differ only in their initial consonant sounds. We can also add other sounds and build the words. For example we can add /-er / sound to the word chip and make it 'chipper'.</i> Making orthographic – phonemic links (NB: Teacher scaffolds this task, by modeling, building words gradually, i.e. begin by adding single consonants, then building onto ends of words, such as 'chips'; extend to 'chipper').	ch	i	p	X	X	c	l	i	p	X
ch	i	p	X	X							
c	l	i	p	X							
	Teacher's Self- reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>										

Week Six Session One

Rime unit -it

Objective: This session is designed to reinforce the lesson routines, as well as the content, familiarizing the students with terms that will be used (onset; rime; sentence; sounds; words; non words; blending; segmenting; diagraphs and blends).

The rime chosen for this session, as a starting point is less challenging just to build up the students' confidence with both the content and procedures.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher plays the 'I spy' game with the students to revise the rime unit and key words from the last session. <i>T: Ok! Students now we are going to play a "I spy game." Now I will give you some hints about words from the last session. You guess the word using the hint. If you know the word, shout I spy and tell the word to the class. Are you ready to play the game? Good. Now let us start. Listen, I have a word in my mind the word has -ip rime, four letters and three sounds. Who can guess the word? If you know it, begin with the phrase I spy the word is.....</i> (NB: Teacher continues the game with different words). -The teacher blends / segments the words orally <i>T: Listen, If I break down the word 'ship' into onset and rime, I will get /ʃ/ and /ip/ sounds. Say after me /sh- ip/. Who can break down the word drip? /d-r-ip/ drip. Who can blend /k-l-and ip/ and make a word?</i> (NB: Teacher leads children orally through these tasks, noting any children having difficulty with the oral tasks).
2	Presentation (5 minutes) Introduce 'it' rime Build key/ target words: bit, hit, fit, kit, lit, spit	-The teacher introduces the target rime and the key words, models their pronunciation and reminds the words onset and rime, and vowel, to describe the parts of the words. <i>T: Alright! Today we are going to practice the rime 'it' and the words we build with 'it' rime. This is how we pronounce the rime and the words. Say after me (the teacher points to the rime unit and each target word and model their pronunciation)./ ɪ -t/ , /t ɪ /.</i> <i>T: Onset is any consonant sound before a vowel in a spoken word; rime is the vowel and any consonants after it. Example, look at the word 'bit'./ bhh/ is the onset / ɪ / is the vowel and -it is the rime because it is formed with i (vowel) and /thh/ consonant. The letters 'I' and 't' make the rime -it. Rimes begin with a vowel.</i> The teacher uses letter and rime cards to build the first target word, <i>hit</i>. <i>T: I use the letter 'b' and the rime -it to build the word 'bit'.</i>

3	Practice (15 minutes) <i>Using letters Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	-The teacher models building target words, students then use letter and rime cards and build the other words. T: <i>Now who can come and build the word hit, kit, lit and spit?</i> - - The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: <i>Look, I can make other words with -it rime. fit, grit, knit, pit, quit, sit, shit, split</i> Say after me (NB: Drill the words first slowly then quickly and finally very quickly). -The teacher writes the following tongue twister containing the key words. (I hit-bit-lit and spit the pit). Write the sentence on the board and models its reading first and drill with the students and finally ask students to read in chores with different speed. T: <i>Look at the sentence. Listen first I will read the sentence then we will read together and finally you read alone.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -The teacher segments the key words into sounds and talks about how sh says 'sh'. Writes the words shit and split and the diagraph sh and the blend spl on the board. T: <i>Look at how split and shit vary in number of sounds.</i> T: <i>The word split has five sounds /s-p-l-i-t/ but the word shit has three sounds /sh-i-t/. In the word split the first three consonant letters s, p and l make three consonant sounds /s, p and l/. These are called blends in English. If two letters make one sound in English they are called diagraphs. In the word shit the onset has two consonant letters s and h represent one sound /sh/.</i>

4

Production
(15 minutes)

Word Analysis

-The teacher models how to analyze the key/target word and complete the word analysis template. Then the teacher asks students to select a word and complete the word analysis template from the students’ activity booklet.

T: *Now I am going to analyze the word **split** using my word analysis template (first draw the template on the board).*

1. The word is **split**.

2. I hear 5 sounds **/s-p-l-i-t/**.

3. I see 5 letters **(s, p, l, i and t)**.

4. The spelling pattern is **spl-it**

5. The vowel is **i**.

6. Another word similar to **split** is **fit**. They are alike because they have **-it** rime.

T: *Ok! Now select one word from the list and complete your word analysis template in **Activity 3.2.1** on your activity booklet).*

Generating and reading
rhyming words

Spelling with Elkonin box

-The teacher lists as many rhyming words with the target rime –**it** on the board. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet.

T: *Look at these words.*
Jit, hit, kit, lit, bit, spit, fit, grit, knit, pit, quit, sit, shit, split, drit

*Are the words alike? What makes them similar? Good these words share the same rime –**it** so they are called rhyming words. Can you generate words share the rime –**it** and add to the list of words in **Activity 3.2.2**?*

*Look at the first and final words ‘jit’ and ‘drit’. Do you know their meanings? The word are called **invented or non-words**. They are not a real words. So they have no meaning. Non-words are words that have no meaning. You can also generate non-words and develop the word list.*

(NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class).

-The teacher models how to practice the spellings of the key/target words by completing the Elkonin box. Then the teacher guides students to select a word and complete the Elkonin box from the students’ activity booklet.

T: *Now I am going to practice the spelling of the words **split** and **shit** using my Elkonin box template (first draw the template on the board).*

s	P	l	I	t
sh	I	t	X	X

T: *Ok! Now select two or three key/target words with –**it** rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put ‘X’ in any remaining box.*

-The teacher discusses how the words are similar, both in their shared letter

	Making orthographic – phonemic links	clusters and shared sounds. T: <i>The words have shared rime (-it) and differ only in their initial consonant sounds. We can also add other sounds and build the words. For example we can add /-est / sound to the word fit and make it 'fittest'.</i> (NB: Teacher scaffolds this task, by modeling, building words gradually, i.e. begin by adding single consonants, then building onto ends of words, such as 'caps'; extend to 'trapper').
	Teacher's Self- reflection Report What were the major activities covered in this session? What were the major challenges faced in this session? What were the measures taken to solve the challenges? What lessons did you learn for future improvement?	

Week Six Session Two

Rime unit -in

Objective: This session is designed to reinforce the lesson routines, as well as the content, familiarizing the students with terms that will be used (onset; rime; sentence; sounds; words; non words; blending; segmenting; diagraphs and blends).

The rime chosen for this session, as a starting point is less challenging just to build up the students' confidence with both the content and procedures.

* *Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset</i>	-The teacher plays the 'I spy' game with the students to revise the rime unit and key words from the last session. T: <i>Ok! Students now we are going to play a "I spy game." Now I will give you some hints about words from the last session. You guess the word using the hint. If</i>

	/ rime units	you know the word, shout I spy and tell the word to the class. Are you ready to play the game? Good. Now let us start. Listen, I have a word in my mind the word has - it rime, four letters and three sounds. Who can guess the word? If you know it, begin with the phrase I spy the word is..... (NB: Teacher continues the game with different words). -The teacher blends / segments the words orally T: Listen, If I break down the word 'shit' into onset and rime, I will get / <i>f</i>/ and /<i>it</i>/ sounds. Say after me / <i>it</i>, <i>f-it</i>/ shit, sprit, /<i>s-p-r-it</i>/. Who can break down the word 'drit'? /<i>d-r-it</i>/ drit. Who can blend /<i>k-l- it</i>/ and make a word? (NB: Teacher leads children orally through these tasks, noting any children having difficulty with the oral tasks).
2	Presentation (5 minutes) Introduce 'in' rime bin, pin, kin, sin, twin, thin Build key/ target words	-The teacher introduces the target rime and the key words, models their pronunciation and reminds the words onset and rime, and vowel, to describe the parts of the words. T: Alright! Today we are going to practice the rime 'in' and the words we build with 'in' rime. This is how we pronounce the rime and the words. Say after me (the teacher points to the rime unit and each target word and model their pronunciation./I-n/, /In/. T: Onset is any consonant sound before a vowel in a spoken word; rime is the vowel and any consonants after it. Example, look at the word bin. /b/ is the onset /I/ is the vowel and /-in/ is the rime because it is formed with /I/ (vowel) and n consonant. The letters 'I' and 'n' make the rime -in. Rimes begin with a vowel. The teacher uses letter and rime cards to build the first target word, 'bin'. T: I use the letter 'b' and the rime -in to build the word 'bin'.
3	Practice (15 minutes) Using letters Using phonological structure Rhyming words and tongue twisters Using Phonemic structure	-The teacher models building target words, students then use letter and rime cards and build the other words. T: Now who can come and build the word pin, sin, kin, twin and thin? - -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: Look, I can make other words with -in rime. chin, din, fin, gin, grin, in, skin, thin, tin, win Say after me (NB: Drill the words first slowly then quickly and finally very quickly. -The teacher writes the following tongue twister containing the key words. (I pin her chin with a pin). Write the sentence on the board and models its reading first and drill with the students and finally ask students to read in chores with different speed. T: Look at the sentence. Listen first I will read the sentence then we will read together and finally you read alone. (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher segments the key words into sounds and talks about how 'th' says / θ/. Writes the words 'thin' and 'skin' and the diagraph 'th' and the blend 'sk' on the board. T: Look at how skin and thin varies in number of sounds though they have the

		same number of letters. T: The word skin has four sounds /s-k-i-n/ but the word thin has three sounds /θ -i-n/. In the word skin the first two consonant letters 's' and 'k' make two consonant sounds /s and k/. These are called blends in English. If two letters make one sound in English they are called digraphs. In the word 'thin' the onset has two consonant letters 't' and 'h' represent one sound /θ/.										
4	Production (15 minutes) Word Analysis Generating and reading rhyming words Spelling with Elkonin box	-The teacher models how to analyze the key/target word and complete the word analysis template. Then the teacher asks students to select a word and complete the word analysis template from the students' activity booklet. T: Now I am going to analyze the word 'twin' using my word analysis template (NB: the teacher first draws the template on the board). 1. The word is <u>twin</u>. 2. I hear 4 sounds /<u>t-w-i-n</u>/. 3. I see 4 letters (<u>t-w-i and n</u>). 4. The spelling pattern is <u>tw-in</u> 5. The vowel is <u>i</u>. 6. Another word similar to twin is <u>kin</u>. They are alike because they have <u>-in</u> rime. T: Ok! Now select one word from the list and complete your word analysis template in your activity booklet. (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher lists as many rhyming words with the target rime -in on the board. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list. T: look at these words. bin, pin, sin, kin, twin, thin, chin, din, fin, gin, grin, in, skin, thin, tin, win, drin T: Are the words alike? What makes them similar? Good these words share the same rime -in so they are called rhyming words. Can you generate words share the rime -in and add to the list of words? T: Look at the final word drin. Do you know its meaning? The word is called invented or non-word. It is not a real word. So it has no meaning. Non-words are words that have no meaning. You can also generate non-words and develop the word list. (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). -The teacher models how to practice the spellings of the key/target words by completing the Elkonin box. Then the teacher guides students to select a word and complete the Elkonin box from the students' activity booklet. T Now I am going to practice the spelling of the words 'thin' and 'twin' using my Elkonin box template (NB: the teacher first draw the template on the board). <table><tr><td>th</td><td>i</td><td>n</td><td>X</td><td>X</td></tr><tr><td>t</td><td>w</td><td>i</td><td>N</td><td>X</td></tr></table> T: Ok! Now select two or three key/target words with -in rime from the list and	th	i	n	X	X	t	w	i	N	X
th	i	n	X	X								
t	w	i	N	X								

	Making orthographic – phonemic links	complete your Elkonin box in Activity 3.3.3 on your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box. -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: The words have shared rime (-in) and differ only in their initial consonant sounds. We can also add other sounds and build the words. For example we can add /-er / sound to the word 'thin' and make it 'thinner'. (NB: Teacher scaffolds this task, by modeling, building words gradually, i.e. begin by adding single consonants, then building onto ends of words, such as 'chines'; extend to 'thinnest').
	Teacher's Self- reflection Report What were the major activities covered in this session? What were the major challenges faced in this session? What were the measures taken to solve the challenges? What lessons did you learn for future improvement?	

Week Six Session Three

Rime unit -ay

Objective: This session is designed to teach the lesson routines, as well as the content, familiarizing the students with terms that will be used (onset; rime; sentence; sounds; words; non words; blending; segmenting; diagraphs and blends).

The rime chosen for this session, as a starting point is less challenging just to build up the students' confidence with both the content and procedures.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i>	The teacher plays the 'I spy' game with the students to revise the rime unit and key words from the last session. T: <i>Ok! Students now we are going to play "I spy game." Now I will give you some hints about words from the last session. You guess the word based on the hint. If you</i>

	Breaking words into onset / rime units	know the word, shout I spy and tell the word to the class. Are you ready to play the game? Good. Now let us start. Listen, I have a word in my mind the word has -in rime, four letters and four sounds. Who can guess the word? If you know it, begin with the phrase I spy, the word is..... (NB: Teacher continues the game with different words). -The teacher blends / segments the words orally Say: listen, If I break down the word 'kin' into onset and rime, I will get / k/ and /in/ sounds. Say after me /k- in/, kin, bin, /b-in/. Who can break down the word 'drin'? /d-r-in/ 'drin'. Who can blend /f-l- in/ and make a word? (NB: Teacher leads children orally through these tasks, noting any children having difficulty with the oral tasks).
2	Presentation (5 mints) Introduce 'ay' rime bay, day, hay, lay, may, say, bray clay, dray, flay, stay Build key/ target words	-The teacher introduces the target rime and the key words, models their pronunciation and introduces the words onset and rime, and vowel, to describe the parts of the words. T: Alright. Today we are going to practice the rime 'ay' and the words we build with 'ay'. This is how we pronounce the rime and the words. The rime has two letters a and y and it also has two sounds /a and j/. It is pronounced as /eI/. Say after me /eI/. (The teacher points to the rime unit and each target word and model their pronunciation). Onset is any consonant sound before a vowel in a spoken word; rime is the vowel and any consonants after it. It is a sound unit because it is read as one sound. Example, look at the word bay. b is the onset a is the vowel and -ay is the rime because it is formed with a vowel and y consonant and read as a single sound unit /eI/. The letters a and y make the rime -ay. Rimes begin with a vowel. The teacher uses letter and rime cards to build the first target word, bay. T: Look, I use the letter b and the rime -ay to build the word bay.
3	Practice (15 minutes) Using letters Using phonological structure Rhyming words and tongue twisters	-The teacher models building target words, students then use letter and rime cards and build the other words. T: Now who can come and build the words day, hay, bray? -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: Look, I can make other words with -ay rime. For example, flay, gray, hay If you read bay you can also read flay because they both have -ay rime. Say after me (NB: Drill the words first slowly, then quickly and finally very quickly). -Teacher writes the following tongue twister containing the key words (You have to pay for the gray clay of the day) and models its reading first and drills with the students and finally asks students to read in chores with different speed. T: Look at the sentence. Listen first I will read the sentence then we will read together and finally you read alone. (NB. Teacher notes whether the students can say sentences, and make rhymes).

	Using structure Phonemic	-The teacher segments the key words into sounds and talks about how ‘br’ says ‘brr’. Writes the words bray and the blend ‘br’ on the board. T: <i>The word bray has four letters b-r-a-y but the word three sounds /b-r-eI/ In the word bray the onset has two consonant letters represent two different sounds /b/ and /r/. These are called blends in English.</i>										
4	Production (15 minutes) Word Analysis Generating and reading rhyming words Spelling with Elkonnin box	-The teacher models how to analyze the key/target word by completing the word analysis template. Then the teacher asks students to select a word and complete the word analysis template from the students’ activity booklet. T: <i>Now I am going to analyze the word bay using my word analysis template (first draw the template on the board).</i> 1. The word is <u>bay</u>. 2. I hear 2 sounds <u>/b-eI/</u>. 3. I see 3 letters <u>(b, a and y)</u>. 4. The spelling pattern is <u>b-ay</u>. 5. The vowel is <u>eI</u>. 6. Another word similar to bay is <u>day</u>. They are alike because they have <u>-ay</u> rime. T: <i>Ok now select one word from the list and complete your word analysis template.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher lists as many rhyming words with the target rime –ay on the board. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list. T: <i>Look at these words.</i> jay, lay, may, pay, fay, glay T: <i>Are the words alike? What makes them similar and different? Good, these words are similar because they share the same rime –ay so they are called rhyming words. They differ only in their initial consonant sounds.</i> <i>Therefore, if you read one of the words then you can read the others. Can you generate words share the rime –ay and add to the list?</i> T: <i>Look at the final word glay. Do you know its meaning? The word is called invented or non-word. It is not a real word. So it has no meaning. Non-words are words that have no meaning. You can also generate non-words and</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). -The teacher models how to practice the spellings of the key/target words by completing the Elkonnin box. Then the teacher guides students to select a word and complete the Elkonnin box in the students’ activity bookplate. Say: <i>Now I am going to practice the spelling of the words fray and bray using my Elkonnin box template (first draw the template on the board).</i> <table><tr><td>f</td><td>r</td><td>ay</td><td>X</td><td>X</td></tr><tr><td>b</td><td>r</td><td>ay</td><td>X</td><td>X</td></tr></table> T: <i>Ok! Now select two or three key/target words with –at rime from the list and complete your Elkonnin box in Activity 3.4.3 on your activity bookplate. Remember</i>	f	r	ay	X	X	b	r	ay	X	X
f	r	ay	X	X								
b	r	ay	X	X								

	<i>you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: <i>The words have shared rime (-ay) and differ only in their initial consonant sounds. If you read fray you can also read clay because they all have -ay. We can also add other sounds and build the words. For example we can add /-s / sound to the word day and make it 'days' we can also add /-ed/ and make the word pay 'paid'. Can you add sounds onto the other words in the list and build the words?</i> (NB: Teacher scaffolds this task, by modeling, building words gradually, i.e. begin by adding single consonants, then building onto ends of words, such as 'pays'; extend to 'payer').
	Teacher's self- Reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What measures were taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>

Week Seven Session One

Rime unit -aw

Objective: This session is designed to teach the lesson routines, as well as the content, familiarizing the students with terms that will be used (onset; rime; sentence; sounds; words; non words; blending; segmenting; diagraphs and blends).

The rime chosen for this session, as a starting point is less challenging just to build up the students' confidence with both the content and procedures.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher plays the ‘I spy’ game with the students to revise the rime unit and key words from the last session. T: <i>Ok! Students now we are going to play “I spy game.” Now I will give you some hints about words from the last session. You guess the word based on the hint. If you know the word, shout I spy and tell the word to the class. Are you ready to play the game? Good. Now let us start. Listen, I have a word in my mind the word has -ay rime, four letters but three sounds. Who can guess the word? If you know it, begin with the phrase I spy, the word is.....</i> (NB: Teacher continues the game with different words). -The teacher blends / segments the words orally T: <i>Listen, If I break down the word ‘day’ into onset and rime, I will get / d/ and /eI/ sounds. Say after me /d- eI/, day. Who can break down the word ‘dray’? /d-r-eI/ ‘dray’.</i> (NB: Teacher leads children orally through these tasks, noting any children having difficulty with the oral tasks).
2	Presentation (5 mints) Introduce ‘aw’ the target words caw, jaw, saw claw, draw, flaw, gnaw Build key/ target words	-The teacher introduces the target rime and the key words, models their pronunciation and introduces the words onset and rime, and vowel, to describe the parts of the words. T: <i>Alright. Today we are going to practice the rime ‘aw’ and the words we build with ‘aw’. This is how we pronounce the rime and the words. The rime has two letters a and w and it also has two sounds /a and w/. It is pronounced as /aw/. Say after me /aw/. (The teacher points to the rime unit and each target word and model their pronunciation).</i> Onset is any consonant sound before a vowel in a spoken word; rime is the vowel and any consonants after it. It is a sound unit because it is read as one sound. Example, look at the word caw. c is the onset a is the vowel and -aw is the rime because it is formed with a vowel and w consonant and read as a single sound unit /aw/. The letters a and w make the rime -aw. Rimes begin with a vowel. -The teacher uses letter and rime cards to build the first target word, caw. T: <i>Look, I use the letter c and the rime -aw to build the word caw.</i>
3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i>	-The teacher models building target words, students then use letter and rime cards and build the other words. T: <i>Now who can come and build the words saw, jaw, claw?</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: <i>Look, I can make other words with -aw rime .For example: law, paw, raw</i>

	Rhyming words and tongue twisters Using structure Phonemic	<i>If you read caw you can also read claw because they both have –aw rime.</i> <i>Say after me (NB: Drill the words first slowly, then quickly and finally very quickly).</i> <i>-Teacher writes the following tongue twister containing the key words (I can draw the caw jaw) and models its reading first and drills with the students and finally asks students to read in chors with different speed.</i> <i>T: Look at the sentence. Listen first I will read the sentence then we will read together and finally you read alone.</i> <i>(NB. Teacher notes whether the students can say sentences, and make rhymes).</i> <i>-The teacher segments the key words into sounds and talks about how ‘cl’ says ‘cIII’.</i> Writes the words claw and the blend ‘cl’ on the board. <i>T: The word claw has four letters c-l-a-w and four sounds /k-l ɔ and w/ In the word claw the onset has two consonant letters represent two different sounds /k/ and /l/. These are called blends in English.</i>
4	Production (15 minutes) Word Analysis Generating and reading rhyming words	<i>-The teacher models how to analyze the key/target word by completing the word analysis template. Then the teacher asks students to select a word and complete the word analysis template from the students’ activity booklet.</i> <i>T: Now I am going to analyze the word caw using my word analysis template (first draw the template on the board).</i> 1. The word is <u>caw</u>. 2. I hear 2 sounds /<u>k- ɔw</u>/. 3. I see 3 letters (<u>c-a- and w</u>). 4. The spelling pattern is <u>c-aw</u>. 5. The vowel is , <u>ɔw</u> 6. Another word similar to caw is <u>jaw</u>. They are alike because they have <u>-aw</u> rime. <i>T: Ok! Now select one word from the list and complete your word analysis template in your activity booklet.</i> <i>(NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class).</i> <i>-The teacher lists as many rhyming words with the target rime –aw on the board. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list.</i> <i>T: Look at these words.</i> <i>slaw, squaw, daw</i> <i>T: Are the words alike? What makes them similar and different? Good, these words are similar because they share the same rime –aw so they are called rhyming words. They differ only in their initial consonant sounds.</i> <i>Therefore, if you read one of the words then you can read the others. Can you generate words share the rime –aw and add to the list?</i> <i>T: Look at the final word daw. Do you know its meaning? The word is called invented or non-word. It is not a real word. So it has no meaning. Non-words are words that have no meaning. You can also generate non-words and</i>

	Spelling with Elkonnin box	(NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). -The teacher models how to practice the spellings of the key/target words by completing the Elkonnin box. Then the teacher guides students to select a word and complete the Elkonnin box in the students’ activity bookplate. Say: <i>Now I am going to practice the spelling of the words draw and claw using my Elkonnin box template (first draw the template on the board).</i> <table><tr><td>d</td><td>r</td><td>aw</td><td>X</td><td>X</td></tr><tr><td>c</td><td>l</td><td>aw</td><td>X</td><td>X</td></tr></table> T: <i>Ok! now select two or three key/target words with –at rime from the list and complete your Elkonnin box in Activity 4.1.3 on your activity bookplate. Remember you write one sound per box not letter but sound and put ‘X’ in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds.	d	r	aw	X	X	c	l	aw	X	X
d	r	aw	X	X								
c	l	aw	X	X								
	Making orthographic - phonemic links	T: <i>The words have shared rime (-aw) and differ only in their initial consonant sounds. If you read draw you can also read claw because they all have –aw. We can also add other sounds and build the words. For example we can add /-s / sound to the word caw and make it ‘caws’. Can you add sounds onto the other words in the list and build the words?</i> (NB: Teacher scaffolds this task, by modeling, building words gradually, i.e. begin by adding single consonants, then building onto ends of words, such as ‘jaws’).										
	Teacher’s self- Reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What measures were taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>											

Week Seven Session Two

Rime unit -ug

Objective: This session is designed to teach the lesson routines, as well as the content, familiarizing the students with terms that will be used (onset; rime; sentence; sounds; words; non words; blending; segmenting; diagraphs and blends).

The rime chosen for this session, as a starting point is less challenging just to build up the students' confidence with both the content and procedures.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher plays the 'I spy' game with the students to revise the rime unit and key words from the last session. <i>T: Ok! Students now we are going to play "I spy game." Now I will give you some hints about words from the last session. You guess the word based on the hint. If you know the word, shout I spy and tell the word to the class. Are you ready to play the game? Good. Now let us start. Listen, I have a word in my mind the word has -aw rime, four letters but three sounds. Who can guess the word? If you know it, begin with the phrase I spy, the word is.....</i> (NB: Teacher continues the game with different words). -The teacher blends / segments the words orally <i>T: Listen, If I break down the word draw into onset and rime, I will get /d/ /r/ and /au/ sounds. Say after me /dr- au/, draw/. Who can break down the word claw? /k-l- au/, claw.</i> (NB: Teacher leads children orally through these tasks, noting any children having difficulty with the oral tasks).
2	Presentation (5 mints) Introduce 'ug' the target words bug, dug, hug, pug, mug, drug, slug Build key/ target words	-The teacher introduces the target rime and the key words, models their pronunciation and introduces the words onset and rime, and vowel, to describe the parts of the words. <i>T: The rime we are going to see today is 'ug'. It is pronounced as / ʌg/. Say after me / ʌg /. We can build these words with the rime 'ug'. Look (the teacher points to the first target word and model its pronunciation) and invite them to read the other words.</i> <i>T: If you read bug you can read drug because both of them have- ug.</i> <i>Onset is any consonant sound before a vowel in a spoken word; rime is the vowel and any consonants after it. It is a sound unit because it is read as one sound. Example, look at the word bug. b is the onset u is the vowel and -ug is the rime because it is formed with u vowel and g consonant and read as a single sound unit / ʌg /. The letters u and g make the rime -ug. Rimes begin with a vowel.</i> -The teacher uses letter and rime cards to build the first target word, bug.

		T: Look, I use the letter b and the rime -ug to build the word bug.
3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using structure Phonemic</i>	-The teacher models building target words, students then use letter and rime cards and build the other words. T: Now who can come and build the words hug, pug, drug? -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: Look, I can make other words with -ug rime .For example: tug, clug If you read tug you can also read clug because they both have -ug rime. Say after me (NB: Drill the words first slowly, then quickly and finally very quickly). -Teacher writes the following tongue twister containing the key words (Put the drug in the bug) and models its reading first and drills with the students and finally asks students to read in chores with different speed. T: Look at the sentence. Listen first I will read the sentence then we will read together and finally you read alone. (NB. Teacher notes whether the students can say sentences, and make rhymes). -The teacher segments the key words into sounds and talks about how ‘dr’ says ‘drrr’. Writes the words drug and the blend ‘dr’ on the board. T: The word drug has four letters d-r-u-g and four sounds /d-r-ʌ and g/ In the word drug the onset has two consonant letters represent two different sounds /d/ and /r/. These are called blends in English.
4	Production (15 minutes) <i>Word Analysis</i>	-The teacher models how to analyze the key/target word by completing the word analysis template. Then the teacher asks students to select a word and complete the word analysis template from the students’ activity booklet. T: Now I am going to analyze the word bug using my word analysis template (first draw the template on the board). 7. The word is <u>bug</u>. 8. I hear 3 sounds <u>/b- ʌ- g/</u>. 9. I see 3 letters <u>(b-u- and g)</u>. 10. The spelling pattern is <u>b-ug</u>. 11. The vowel is <u>, ʌ</u> 12. Another word similar to bug is <u>hug</u>. They are alike because they have -ug rime. T: Ok! Now select one word from the list and complete your word analysis template in your activity booklet. (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class).

	<i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What measures were taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>
--	--

Week Seven Session Three

Rime unit *-ing*

Objective: This session is designed to reinforce the lesson routines, as well as the content, familiarizing the students with terms that will be used (onset; rime; sentence; sounds; words; non words; blending; segmenting; diagraphs and blends).

The rime chosen for this session, as a starting point is less challenging just to build up the students' confidence with both the content and procedures.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher plays the 'I spy' game with the students to revise the rime unit and key words from the last session. T: <i>Ok! Students now we are going to play "I spy game." Now I will give you some hints about words from the last session. You guess the word based on the hint. If you know the word, shout I spy and tell the word to the class. Are you ready to play the game? Good. Now let us start. Listen, I have a word in my mind the word has -in rime, four letters and four sounds. Who can guess the word? If you know it, begin with the phrase I spy, the word is.....</i> (NB: Teacher continues the game with different words). -The teacher blends / segments the words orally Say: <i>listen, If I break down the word 'kin' into onset and rime, I will get / k/ and /in/ sounds. Say after me /k- in/, kin, bin, /b-in/. Who can break down the word 'drin'? /d-r-in/ 'drin'. Who can blend /f-l- in/ and make a word?</i> (NB: Teacher leads children orally through these tasks, noting any children having difficulty with the oral tasks).

2	Presentation (5 minutes) Introduce ‘ing’ rime king, ping, ring, wing, sing, bring Build key/ target words	-The teacher introduces the target rime and the key words, models their pronunciation and reminds the words onset and rime, and vowel, to describe the parts of the words. <i>T: Alright! Today we are going to practice the rime ‘ing’ and the words we build with ‘ing’ rime. This is how we pronounce the rime and the words. Say after me (the teacher points to the rime unit and each target word and model their pronunciation./i-n-ŋ/, /in ŋ /.</i> T: Onset is any consonant sound before a vowel in a spoken word; rime is the vowel and any consonants after it. Example, look at the word king. /k/ is the onset /i/ is the vowel and -ing is the rime because it is formed with/ i/ (vowel) and /n/ and lŋ/ consonants. The letters ‘i’, ‘n’ and ‘g’ make the rime -ing. Rimes begin with a vowel. The teacher uses letter and rime cards to build the first target word, king. Say: <i>I use the letter ‘k’ and the rime -ing to build the word, king.</i>
3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	-The teacher models building target words, students then use letter and rime cards and build the other words. <i>T: Now who can come and build the word ping, ring, sing and bring?</i> - The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with -ing rime.</i> bring, cling, ding, king, ping, ring, sing, sling, spring, sting, wing <i>T: Say after me (NB: Drill the words first slowly then quickly and finally very quickly).</i> -The teacher writes the following tongue twister containing the key words (The thing they bring to the king is a ring). Write the sentence on the board and models its reading first and drill with the students and finally ask students to read in chors with different speed. <i>T: Look at the sentence. Listen first I will read the sentence then we will read together and finally you read alone.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). - Teacher segments the key words into sounds and talks about how ‘th’ says / θ /. Writes the words ‘thing’ and ‘bring’ and the diagraph ‘th’ and the blend ‘br’ on the board. <i>T: Look at how ‘bring’ and ‘thing’ vary in number of sounds though they have the same number of letters.</i> -The word bring has five sounds /b-r-i-n-g/ but the word thing has four sounds /θ -i- n-ŋ/. In the word bring the first two consonant letters ‘b’ and ‘r’ make two consonant sounds /b and r/. These are called blends in English. If two letters make one sound in English they are called diagraphs. In the word thing the onset has two consonant letters ‘t’ and ‘h’ represent one sound / θ /.
4	Production (15 minutes) Word Analysis	-The teacher models how to analyze the key/target word and complete the word analysis template. Then the teacher asks students to select a word and complete the word analysis template from the students’ activity booklet. <i>T: Now I am going to analyze the word sing using my word analysis template NB: the teacher first draws (the template on the board).</i>

	Teacher's Self- reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>	

Week Eight Session One

Rime unit -ick

Objective: This session is designed to provide students opportunities to practice rime based analogy strategy, reinforce the lesson routines, as well as the content.

The rime chosen for this session is a little bit challenging than the previous rimes. It builds up the students' confidence in using the rime to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher plays the 'Changing the vowel sound to create pseudo or non-words' game with the students to revise the rime unit and key words from the last session. T: <i>Ok! Students now we are going to play a game. The game is creating non-words by changing the vowel sound of the given word. Now I will say a word. You change the vowel sound of the word with other vowels and create a pseudo or non-word. For example, if I say the word 'ring,' you can change the vowel /i/ with other vowel such as /o/ and form a word says 'rong' Are you ready to play the game? Good. Now let us start. Listen, I have a word says 'ching'. Who can change the vowel sound and create a new word?</i> (NB: <i>Teacher continues the game with different words.</i>) -The teacher blends / segments the words orally

		T: Listen, if I break down the word ching into onset and rime, I will get /tʃ/ and /ing/ sounds. Say after me / tʃ- i-n-g/, chack.. Who can break down the word ping? /p-ing/ ping. (NB: Teacher leads children orally through these tasks, noting any children having difficulty with the oral tasks).
2	Presentation (5 minutes) Introduce ‘ick’ rime Build key/ target words: brick, chick, click, kick, lick	-The teacher introduces the target rime and key words, re-introduces the words onset and rime, and vowel, to describe the parts of the words. T: Ok! Today we are going to practice the ‘ick’ rime and key words built with this rime. It is how we pronounce the rime. Say after me /ik/. Let us pronounce the words. Say after me (teacher points to each word and model its pronunciation). T: What is an onset? What is a rime? Who can remember us? Alright. Onset is any consonant sound before a vowel in a spoken word; rime is the vowel and any consonants after it. Example, look at the word brick. /br/ is the onset /i/ is the vowel and /ik/ is the rime because it is formed with / i/ (vowel) and /k/ consonant. The letters ‘I’, ‘c’ and ‘k’ make the rime -ick. Rimes begin with a vowel./i-k/, /ik/. The teacher uses letter and rime cards to build the first target word, brick. T: I use the letter ‘b’ and ‘r’ and the rime -ick to build the word brick.
3	Practice (15 minutes) Using letters Using phonological structure Rhyming words and tongue twisters Using Phonemic structure	-The teacher models building target words, students then use letter and rime cards and build the other words. T: Now who can come and build the word chick, click, kick, and lick? - The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: Look, I can make other words with -ick rime. nick, pick, quick, sick, stick Say after me (NB: Drill the words first slowly then quickly and finally very quickly). -The teacher writes the following tongue twister containing the key words. (I kick the brick with a stick). Write the sentence on the board and models its reading first and drill with the students and finally ask students to read in chors with different speed. T: Look at the sentence. Listen first I will read the sentence then we will read together and finally you read alone. (NB. Teacher notes whether the students can say sentences, and make rhymes). - Teacher segments the key words into sounds and talks about how ‘st’ says /st/ and ‘ch’ says /tʃ/. Writes the word ‘stick’ and ‘chick’ and the blend ‘st’ and the diagraph ‘ch’ on the board. T: Look at how stick and chick. Do they have the same number of letters and sounds? Good. The words vary in number of sounds though they have the same number of letters. . T: The word stick has four sounds /s-t-i-k/ but the word chick has three sounds / tʃ-i-k/. In the word stick the first two consonant letters ‘s’ and ‘t’ make two consonant sounds /s/ and /t/. These are called blends in English. If two letters make one sound in English they are called diagraphs. In the word chick the onset has two consonant letters c and h represent one sound / tʃ/.

	Making orthographic phonemic links –	sounds. We can also add other sounds and build the words. For example we can add /-id / sound to the word click and make it 'clicked'. (NB: Teacher scaffolds this task, by modeling, building words gradually, i.e. begin by adding single consonants, then building onto ends of words, such as 'clicks'; extend to 'clicked').
	Teacher's Self-reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>	

Week Eight Session Two

Rime units –unk

Objective: This session is designed to provide less modeled practice opportunities to the students to manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons should be on providing opportunities for the students' to build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words in a less controlled manner.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from</i>	The teacher invites students to play a '<i>One minute summary game</i>'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit

	<i>last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	of the word to the class with in a minute. T; <i>Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> <i>(NB: Teacher continues the game with different students).</i>
2	Presentation (5 minutes) Introduce ‘unk’ the target words bunk, chunk, drunk, hunk Build key/ target words	-The teacher models the pronunciation of the target rimes and the key words and reminds the words onset and rime, and vowel, to describe the parts of the words. T: <i>The first rime we are going to see today is ‘unk’. It is pronounced as /ʌnk /. Say after me /ʌnk/. We can build these words with the rime ‘unk’. Look (the teacher points to the first target word and model its pronunciation) say bunk. And invite them to read the other words.</i> T: <i>If you read ‘bunk’ you can read ‘chunk’ because both of them have- unk.</i>
3	Practice Using letters (15 minutes) Using phonological structure Rhyming words and tongue twisters Using Phonemic structure	-The teacher invites a student to come and build the first target word, bunk and also tell the onset (the letter) and the rime used to build the word bunk. T: <i>Who can come and build the word bunk and also tell the onset and rime of the word</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: <i>Look, I can make other words with –unk. For example: plunk Can you make other rhyming words and non-words with –unk. Good look at the sentence. They chunk and drunk in the bunk. Read the sentence in chores.</i> <i>(NB. Teacher notes whether the students can say sentences, and make rhymes).</i> -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.

4	Production (15 minutes) Word Analysis Generating and reading rhyming words Spelling with Elkonin box	-The teacher invites the students to analyze the key/target words and complete the word analysis template. T: <i>Alright, now select one word from the list and complete your word analysis template in your activity booklet.be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –unk orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list. T: <i>Look at these words.</i> bunk chunk punk plunk stunk trunk T: <i>Are the words alike? What makes them similar? Can you generate words that share the rime –unk and add to the list of words?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). T: <i>Ok! Now select two or three key/target words with –unk rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put ‘X’ in any remaining box.</i>
----------	--	---

Week Eight Session Three
Rime units –ump

Objective: This session is designed to provide less modeled practice opportunities to the students to manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons should be on providing opportunities for the students' to build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words in a less controlled manner.

* Teacher's language and scaffolding actions in italics.

Materials:

Students' activity booklet

Letter cards

Rime cards

Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	The teacher invites students to play a ‘One minute summary game’. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. T: <i>Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).
Practice Using letters (15 minutes) <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure and sentences</i>	T: <i>How can we spell dump? D-u-m and p</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: <i>Look, I can make other words with –ump. For example: clump</i> <i>Can you make other rhyming words and non-words with –ump.</i> <i>Good! Look at the sentence. They jump and bump the plump. Read the sentence in chores.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.
Production (15 minutes) <i>Word Analysis</i> <i>Generating and reading rhyming words</i>	-The teacher invites the students to analyze the key/target words and complete the word analysis template. T: <i>Alright, now select one word from the list and complete your word analysis template in your activity booklet.be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –ump orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list. T: <i>Look at these words.</i> lump, plump, rump, slump, stump, thump, trump T: <i>Are the words alike? What makes them similar? Can you generate words</i>

Spelling with Elkonin box Making orthographic phonemic links –	<i>that share the rime –ump and add to the list of words?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). T: <i>Ok! now select two or three key/target words with –ump rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: <i>What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
	Teacher's Self- reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>

Week Nine Session One

Rime units –ank

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

* *Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review rimes and target words from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher invites students to play a '<i>One minute summary game</i>'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. <i>T: Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).
2	Presentation (5 minutes) Introduce 'ank' the target words bank, rank, blank, crank, frank, plank Build key/ target words	-The teacher models the pronunciation of the target rimes and the key words and reminds the words onset and rime, and vowel, to describe the parts of the words. <i>T: The first rime we are going to see today is 'ank'. It is pronounced as /ank /. Say after me /ank/. We can build these words with the rime 'ank'. Look (the teacher points to the first target word and model its pronunciation) say bank. And invite them to read the other words.</i> <i>T: If you read bank you can read rank because both of them have- ank.</i> -The teacher invites a student to come and build the first target word, bank and also tell the onset (the letter) and the rime used to build the word bank. <i>T: Who can come and build the word bank and also tell the onset and rime of the word.</i>

3	Practice (15 minutes) <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	-The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: Look, I can make other words with -ank. For example: plank Can you make other rhyming words and non-words with -ank. Good! Look at the sentence. They go to bank to get frank. Read the sentence in chores. (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.
4	Production (15 minutes) <i>Word Analysis</i> <i>Generating, reading and analyzing rhyming words</i> <i>Spelling with Elkonin box</i> <i>Making orthographic – phonemic links</i>	-The teacher invites the students to analyze the key/target words and complete the word analysis template. T: Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally. (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime -ank orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list and underline the rime unit and circle the onset. T: Look at these words. sank, spank, tank, thank, mank T: Are the words alike? What makes them similar? Can you generate words that share the rime -ank and add to the list of words and underline the rime in each word and circle the onset? (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). T: Ok! Now select two or three key/target words with -ank rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box. The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?

Week Nine Session Two

Rime unit -ink

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher invites students to play a 'One minute summary game'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class within a minute. <i>T: Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).
2	Presentation (5 minutes) Introduce 'ink' and the target words blink, brink, drink, ink, fink, mink Build key/ target words	-The teacher introduces the target rime and key words, re-introduces the words onset and rime, and vowel, to describe the parts of the words. <i>T: Now we are going to see the second rime for this session- 'ink'. It is pronounced as /Ink/. Say after me /Ink/. We can build these words with the rime 'ink'. Look (the teacher points to the first target word and model its pronunciation) say blink. And invite them to read the other words.</i> <i>T: If you read blink you can read brink because both of them have- ink.</i> -The teacher invites a student to come and build the first target word, <i>blink</i> and also tell the onset (the letter) and the rime used to build the word bump. <i>T: Who can come and build the word blink and also tell the onset and rime of the word?</i>

3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	<i>T: How can we spell blink? B-l-i-n-k</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with –ink. For example: shrink</i> <i>T: Can you make other rhyming words and non-words with –ink?</i> <i>T: Good! Look at the sentence. The cat drink the ink and shrink. Read the sentence in chores.</i> <i>(NB. Teacher notes whether the students can say sentences, and make rhymes).</i> -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.
4	Production (15 minutes) <i>Word Analysis</i> <i>Generating and reading rhyming words</i> <i>Spelling with Elkonin box</i> <i>Making orthographic – phonemic links</i>	-The teacher invites the students to analyze the key/target words and complete the word analysis template. <i>T: Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> <i>(NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class).</i> -The teacher tells as many rhyming words with the target rime –ink orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and also underline the rime unit and circle the onset in each word. <i>T: Look at these words.</i> kink, link, ink, shrink, sink, rink <i>T: Are the words alike? What makes them similar? Can you generate words that share the rime –ink and add to the list of words and underline the rime unit and circle the onset in each word?</i> <i>(NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class).</i> <i>T: Ok! Now select two or three key/target words with –ink rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put ‘X’ in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. <i>T: What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
	Teacher’s Self-reflection Report	

	<i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>
--	--

Week Nine Session Three

Rime units –ock

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review rimes and target words from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	The teacher invites students to play a '<i>One minute summary game</i>'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. T; <i>Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).

2	Presentation (5 minutes) Introduce ‘ock’ the target words block, clock, crock, dock, flock, mock, sock Build key/ target words	-The teacher models the pronunciation of the target rimes and the key words and reminds the words onset and rime, and vowel, to describe the parts of the words. <i>T: The first rime we are going to see today is ‘ock’. It is pronounced as /ɒk /. Say after me /ɒk/. We can build these words with the rime ‘ock’. Look (the teacher points to the first target word and model its pronunciation) say block. And invite them to read the other words.</i> <i>T: If you read block you can read clock because both of them have- ock.</i> -The teacher invites a student to come and build the first target word, block and also tell the onset (the letter) and the rime used to build the word block. <i>T: Who can come and build the word block and also tell the onset and rime of the word.</i>
3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	-The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Who can spell clock orally?</i> <i>T: Look, I can make other words with –ock. For example: frock</i> <i>T: Can you make other rhyming words and non-words with –ock?</i> <i>Good. Look at the sentence. The flock blocks and locks the dock.. Read the sentence in chores.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.

4	Production (15 minutes) Word Analysis Generating, reading and analyzing rhyming words Spelling with Elkonin box Making orthographic phonemic links	-The teacher invites the students to analyze the key/target words and complete the word analysis template. T: <i>Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –ock orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and underline the rime unit and circle the onset. T: <i>Look at these words.</i> frock, knock, lock, rock, shock, bock, hock T: <i>Are the words alike? What makes them similar? Can you generate words that share the rime –ock and add to the list of words and underline the rime in each word and circle the onset?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). T: <i>Ok! Now select two or three key/target words with –ock rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds.
---	--	--

Week Ten Session One

Rime unit -oke

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher invites students to play a 'One minute summary game'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class within a minute. <i>T: Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).
2	Presentation (5 minutes) Introduce 'oke' and the target words broke, choke, coke, joke Build key/ target words	<i>T: What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i> <i>T: Now we are going to see the second rime for this session- 'oke'. It is pronounced as / ŋk /. Say after me / ŋk/. We can build these words with the rime 'oke'. Look (the teacher points to the first target word and model its pronunciation) say broke. And invite them to read the other words.</i> <i>T: If you read broke you can read choke because both of them have- oke.</i> -The teacher invites a student to come and build the first target word, broke and also tells the onset (the letter) and the rime used to build the word broke. <i>T: Who can come and build the word choke and also tell the onset and rime of the word?</i>

3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	<i>T: How can we spell broke? B-r-o-k-e</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with –oke. For example: coke</i> <i>T: Can you make other rhyming words and non-words with –oke?</i> <i>T: Good! Look at the sentence. They broke the coke for a joke.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.
4	Production (15 minutes) <i>Word Analysis</i> <i>Generating and reading rhyming words</i> <i>Spelling with Elkonin box</i> <i>Making orthographic – phonemic links</i>	The teacher invites the students to analyze the key/target words and complete the word analysis template. <i>T: Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime -oke orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and also underline the rime unit and circle the onset in each word. <i>T: Look at these words.</i> poke, smoke, spoke, noke <i>T: Are the words alike? What makes them similar? Can you generate words that share the rime –oke and add to the list of words and underline the rime unit and circle the onset in each word?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). <i>T: Ok! Now select two or three key/target words with –ail rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put ‘X’ in any remaining box.</i> The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. <i>T: What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
	Teacher’s Self-reflection Report <i>What were the major activities covered in this session?</i>	

	What were the major challenges faced in this session? What were the measures taken to solve the challenges? What lessons did you learn for future improvement?
--	---

Week Ten Session Two

Rime units *-ine*

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

* Teacher's language and scaffolding actions in italics.

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review rimes and target words from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	The teacher invites students to play a '<i>One minute summary game</i>'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. T; <i>Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> <i>(NB: Teacher continues the game with different students).</i>
2	Presentation (5 minutes) Introduce '<i>ine</i>' the target words dine, fine, line, mine, shine, wine	-The teacher models the pronunciation of the target rimes and the key words and reminds the words onset and rime, and vowel, to describe the parts of the words. T: <i>The first rime we are going to see today is 'ine'. It is pronounced as /am /. Say after me /vIn/. We can build these words</i>

	Build key/ target words	with the rime 'ine'. Look (the teacher points to the first target word and model its pronunciation) say dine. And invite them to read the other words. T: If you read dine you can read fine because both of them have-ine. -The teacher invites a student to come and build the first target word, dine and also tell the onset (the letter) and the rime used to build the word dine. T: Who can come and build the word dine and also tell the onset and rime of the word.
3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	-The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: Who can spell 'dine' orally? T: Look, I can make other words with -ine. For example: crine T: Can you make other rhyming words and non-words with -ine? T: Good look at the sentence. We line, dine, wine and shine. Read the sentence in chores. (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.

4	Production (15 minutes) Word Analysis Generating, reading and analyzing rhyming words Spelling with Elkonin box Making orthographic – phonemic links	-The teacher invites the students to analyze the key/target words and complete the word analysis template. T: <i>Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –ine orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and underline the rime unit and circle the onset. T: <i>Look at these words.</i> nine, pine, shine, spine, swine T: <i>Are the words alike? What makes them similar? Can you generate words that share the rime –ine and add to the list of words and underline the rime in each word and circle the onset?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). T: <i>Ok, now select two or three key/target words with –ine rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: <i>What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
---	--	---

Week Ten Session Three

Rime unit - *ight*

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher invites students to play a 'One minute summary game'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class within a minute. <i>T: Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).
2	Presentation (5 minutes) Introduce 'ight' and the target words bright, flight, fright, light, night, flight Build key/ target words	<i>T: Now we are going to see the second rime for this session- 'ight'. It is pronounced as / ɔɪt /. Say after me / ɔɪt/. We can build these words with the rime 'ight'. Look (the teacher points to the first target word and model its pronunciation) say bright. And invite them to read the other words.</i> <i>T: If you read bright you can read flight because both of them have- ight.</i> -The teacher invites a student to come and build the first target word, <i>bright</i> and also tells the onset (the letter) and the rime used to build the word broke. <i>T: who can come and build the word 'bright' and also tell the onset and rime of the word?</i>

3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	<i>T: How can we spell bright? B-r-i-g-h-t</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with -ight. For example: light</i> <i>T; Can you make other rhyming words and non-words with -ight?</i> <i>Good! Look at the sentence. The light made the night bright for the fight.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.
4	Production (15 minutes) <i>Word Analysis</i> <i>Generating and reading rhyming words</i> <i>Spelling with Elkonin box</i> <i>Making orthographic – phonemic links</i>	-The teacher invites the students to analyze the key/target words and complete the word analysis template. <i>T: Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime -ight orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and also underline the rime unit and circle the onset in each word. <i>T: look at these words.</i> <i>fright, light, might, night</i> <i>Are the words alike? What makes them similar? Can you generate words that share the rime -ight and add to the list of words and underline the rime unit and circle the onset in each word?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). <i>T: Ok! Now select two or three key/target words with -ail rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. <i>T: What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
	Teacher's Self-reflection Report	

	<i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>
--	--

Week Eleven Session One

Rime units –*ill and est*

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rimes chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review rimes and target words from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	The teacher invites students to play a '<i>One minute summary game</i>'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. T; <i>Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> <i>(NB: Teacher continues the game with different students).</i>

2	Presentation-a (5 minutes) Introduce ‘ill’ the target words bill, chill, dill, drill, frill Build key/ target words	-The teacher models the pronunciation of the target rimes and the key words and reminds the words onset and rime, and vowel, to describe the parts of the words. <i>T: The first rime we are going to see today is ‘ill’. It is pronounced as /il/. Say after me /il/. We can build these words with the rime ‘ill’. Look (the teacher points to the first target word and model its pronunciation) say bill. And invite them to read the other words.</i> <i>T: If you read bill you can read chill because both of them have-ill.</i> -The teacher invites a student to come and build the first target word, bill and also tell the onset (the letter) and the rime used to build the word bill. <i>T: Who can come and build the word bill and also tell the onset and rime of the word.</i>
3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	-The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: who can spell ‘chill’ orally?</i> <i>T: Look, I can make other words with –ill. For example: thrill</i> <i>T: Can you make other rhyming words and non-words with –ill?</i> <i>T: Good look at the sentence. We pill the bill to fill and thrill.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.

3	Production (15 minutes) Word Analysis Generating, reading and analyzing rhyming words Spelling with Elkonin box Making orthographic – phonemic links	-The teacher invites the students to analyze the key/target words and complete the word analysis template. T: <i>alright now select one word from the list and complete your word analysis template in your activity booklet.be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –ill orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet in and underline the rime unit and circle the onset. T: <i>Look at these words.</i> fill, grill, hill, ill, kill, skill, crill, vill T: <i>Are the words alike? What makes them similar? Can you generate words that share the rime –ill and add to the list of words and underline the rime in each word and circle the onset?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). T: <i>Ok, now select two or three key/target words with –ill rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: <i>What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
---	--	--

Week Eleven Session Two

Rime unit - *est*

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher invites students to play a '<i>One minute summary game</i>'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. <i>T: Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).
2	Presentation (5 minutes) Introduce 'est' and the target words best, blest, chest, guest Build key/ target words	T: Now we are going to see the second rime for this session- 'est'. It is pronounced as / est /. Say after me /est/. We can build these words with the rime 'est'. Look (the teacher points to the first target word and model its pronunciation) say best. And invite them to read the other words. <i>T: If you read best you can read guest because both of them have- est.</i> -The teacher invites a student to come and build the first target word, best and also tells the onset (the letter) and the rime used to build the word broke. <i>T: Who can come and build the word blest and also tell the onset and rime of the word?</i>

3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	<i>T: How can we spell guest? g-u-e-s-t</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with –est. For example: test</i> <i>T: Can you make other rhyming words and non-words with –est?</i> <i>Good look at the sentence. This is the best test for the fest.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.
4	Production (15 minutes) <i>Word Analysis</i> <i>Generating and reading rhyming words</i> <i>Spelling with Elkonin box</i> <i>Making orthographic – phonemic links</i>	-The teacher invites the students to analyze the key/target words and complete the word analysis template. <i>T: Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –est orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and also underline the rime unit and circle the onset in each word. <i>T: Look at these words.</i> nest, pest, rest, test, dest, frest <i>T: Are the words alike? What makes them similar? Can you generate words that share the rime –est and add to the list of words and underline the rime unit and circle the onset in each word?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class.) <i>T Ok! Now select two or three key/target words with –ail rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put ‘X’ in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. <i>T: What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
	Teacher’s Self-reflection Report	

	<i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>
--	--

Week Eleven Session Three

Rime units –eat

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rimes chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review rimes and target words from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	The teacher invites students to play a '<i>One minute summary game</i>'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. T; <i>Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> <i>(NB: Teacher continues the game with different students).</i>

2	Presentation (5 minutes) Introduce ‘eat’ the target words beat, cheat, eat, heat, treat Build key/ target words	The teacher models the pronunciation of the target rimes and the key words and reminds the words onset and rime, and vowel, to describe the parts of the words. T: <i>The first rime we are going to see today is ‘eat’. It is pronounced as /it/. Say after me /it/. We can build these words with the rime ‘eat’. Look (the teacher points to the first target word and model its pronunciation) say beat. And invite them to read the other words.</i> T: <i>If you read beat you can read cheat because both of them have- eat.</i> -The teacher invites a student to come and build the first target word, cheat and also tell the onset (the letter) and the rime used to build the word cheat. T: <i>who can come and build the word cheat and also tell the onset and rime of the word.</i>
3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	-The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: <i>Who can spell ‘cheat’ orally?</i> T: <i>Look, I can make other words with –eat. For example, speat</i> T: <i>Can you make other rhyming words and non-words with –eat?</i> T: <i>Good look at the sentence. We heat the meat to eat.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.

4	Production (15 minutes) Word Analysis Generating, reading and analyzing rhyming words Spelling with Elkonin box Making orthographic – phonemic links	-The teacher invites the students to analyze the key/target words and complete the word analysis template. T: <i>Alright now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –eat orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and underline the rime unit and circle the onset. T: <i>Look at these words.</i> meat, neat, peat, seat, wheat T: <i>Are the words alike? What makes them similar? Can you generate words that share the rime –ill and add to the list of words and underline the rime in each word and circle the onset?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). T: <i>Ok, now select two or three key/target words with –ill rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: <i>What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
---	--	--

Week Twelve Session One

Rime unit - *ate*

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher invites students to play a 'One minute summary game'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. <i>T: Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).
2	Presentation (5 minutes) Introduce 'ate' and the target words ate, date, gate, hate, late Build key/ target words	<i>T: Now we are going to see the rime for this session- 'ate'. It is pronounced as / et /. Say after me /et/. We can build these words with the rime 'ate'. Look (the teacher points to the first target word and model its pronunciation) say ate. And invite them to read the other words.</i> <i>T: If you read ate you can read gate because both of them have- ate.</i> -The teacher invites a student to come and build the first target word, ate and also tells the onset (the letter) and the rime used to build the word broke. <i>T: Who can come and build the word ate and also tell the onset and rime of the word?</i>

3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	<i>T: How can we spell gate? g-a-t-e</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with –ate. For example: slate</i> <i>T: Can you make other rhyming words and non-words with –ate?</i> <i>T: Good! Now look at the sentence. I go to the gate and ate with a plate.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.
4	Production (15 minutes) Word Analysis Generating and reading rhyming words Spelling with Elkonin box Making orthographic – phonemic links	-The teacher invites the students to analyze the key/target words and complete the word analysis template. <i>T: Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –ate orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet in and also underline the rime unit and circle the onset in each word. <i>T: Look at these words.</i> <i>mate, plate, rate, slate, vate, drate</i> <i>Are the words alike? What makes them similar? Can you generate words that share the rime –ate and add to the list of words and underline the rime unit and circle the onset in each word?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). <i>T: Ok now select two or three key/target words with –ate rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put ‘X’ in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. <i>T: What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
	Teacher’s Self-reflection Report <i>What were the major activities covered in this session?</i>	

	What were the major challenges faced in this session? What were the measures taken to solve the challenges? What lessons did you learn for future improvement?
--	---

Week Twelve Session Two

Rime units –ice

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rimes chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review rimes and target words from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	The teacher invites students to play a '<i>One minute summary game</i>'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. <i>T; Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> <i>(NB: Teacher continues the game with different students).</i>

2	Presentation (5 minutes) Introduce ‘ice’ the target words dice, ice, mice, nice, price, rice Build key/ target words	-The teacher models the pronunciation of the target rimes and the key words and reminds the words onset and rime, and vowel, to describe the parts of the words. T: <i>The first rime we are going to see today is ‘ice’. It is pronounced as /ais/. Say after me /aid/. We can build these words with the rime ‘ice’. Look (the teacher points to the first target word and model its pronunciation) say bride. And invite them to read the other words.</i> T: <i>If you read dice you can read mice because both of them have- ice.</i> -The teacher invites a student to come and build the first target word, dice and also tell the onset (the letter) and the rime used to build the word dice. T: <i>Who can come and build the word mice and also tell the onset and rime of the word.</i>
3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	-The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: <i>Who can spell dice orally?</i> T: <i>Look, I can make other words with –ice. For example: slice</i> T: <i>Can you make other rhyming words and non-words with –ice?</i> T: <i>Good. Look at the sentence. The mice ate the rice for no price.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.

4	Production (15 minutes) Word Analysis Generating, reading and analyzing rhyming words Spelling with Elkonin box Making orthographic – phonemic links	-The teacher invites the students to analyze the key/target words and complete the word analysis template. T: <i>Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –ice orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and underline the rime unit and circle the onset. T: <i>Look at these words.</i> spice, splice, thrice, pice T: <i>Are the words alike? What makes them similar? Can you generate words that share the rime –ice and add to the list of words in Activity 6.3.2 a and underline the rime in each word and circle the onset?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). T: <i>Ok! Now select two or three key/target words with –ice rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: <i>What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
---	--	--

	Presentation –b (5 minutes)	T: Now we are going to see the second rime for this session- 'uck'. It is pronounced as / ʌ k /. Say after me / ʌ k/. We can build these words with the rime 'uck'. Look (the teacher points to the first target word and model its pronunciation) say buck. And invite them to read the other words. T: If you read buck you can read chuck because both of them have- uck. -The teacher invites a student to come and build the first target word, buck and also tells the onset (the letter) and the rime used to build the word broke. T: who can come and build the word buck and also tell the onset and rime of the word?
	Practice-b <i>Using letters</i> (5 minutes) <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure and sentences</i>	
	Production-b (5 minutes) Word Analysis <i>Generating, analyzing and reading rhyming words</i>	-The teacher invites the students to analyze the key/target words and complete the word analysis template. T: Alright, now select one word from the list and complete your word analysis template in Activity 6.3.1b on your activity booklet.be ready to analyze your word orally. (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime – ore orally from the list on the chart paper. The words can be non- words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet in Activity 6.3.2 b and also underline the rime unit and circle the onset in each word.

	Spelling with Elkonin box Making orthographic – phonemic links	T: look at these words. pluck, stuck, struck, truck, bruck T: Are the words alike? What makes them similar? Can you generate words that share the rime –uck and add to the list of words in Activity 6.3.2 b and underline the rime unit and circle the onset in each word? (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class.) T: Ok now select two or three key/target words with –ore rime from the list and complete your Elkonin box in Activity 6.3.3b on your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box. -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?
5	Review of learning Metaphonemic knowledge (5 minutes)	-The teacher models to students how they could articulate of what they know about the rime; how they transfer this to new words and sentences; what they can do now, that they couldn't before; review what they learnt this week. -The teacher models to students how they could articulate of what they know about the rime; how they transfer this to new words; what they can do now, that they couldn't before; review what they learnt. T: what did we learn today? Can you say the rimes we practiced today? Great, today we practiced the –ice and –uck rimes and the key words share the rimes. Can you now read any new word contains the rime –ice and uck? For example how do you pronounce this word grice?
	Teacher's Self- reflection Report What major activities were covered in this session? What were the major challenges faced in this session? What were the measures taken to solve the challenges?	

	What lessons did you learn for future improvement?
--	--

Week Twelve Session Three

Rime unit - *uck*

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher invites students to play a 'One minute summary game'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. <i>T: Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).
2	Presentation (5 minutes) Introduce 'uck' and the target words buck, chuck, cluck duck luck muck Build key/ target words	<i>T: Now we are going to see the second rime for this session- 'uck'. It is pronounced as / ʌk /. Say after me / ʌ k/. We can build these words with the rime 'uck'. Look (the teacher points to the first target word and model its pronunciation) say buck. And invite them to read the other words.</i> <i>T: If you read buck you can read chuck because both of them have- uck.</i> -The teacher invites a student to come and build the first target word, buck and also tells the onset (the letter) and the rime used to build the word broke. <i>T: who can come and build the word buck and also tell the onset and rime of the</i>

		word?
3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	<i>T: How can we spell buck? b-u-c-k</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with –ore. For example:</i> truck <i>Can you make other rhyming words and non-words with –uck?</i> <i>T: Good look at the sentence. They truck chuck the duck.</i> <i>(NB. Teacher notes whether the students can say sentences, and make rhymes).</i> -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.
4	Production (15 minutes) <i>Word Analysis</i> <i>Generating and reading rhyming words</i> <i>Spelling with Elkonin box</i> <i>Making orthographic – phonemic links</i>	<i>T: How can we spell buck? b-u-c-k</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with –uck. For example:</i> truck <i>Can you make other rhyming words and non-words with –uck?</i> <i>T: Good look at the sentence. They truck chuck the duck.</i> <i>(NB. Teacher notes whether the students can say sentences, and make rhymes).</i> -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.
Teacher's Self-reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i>		

	What lessons did you learn for future improvement?
--	--

Week Thirteen Session one

Rime units –ide

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rimes chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review rimes and target words from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	The teacher invites students to play a '<i>One minute summary game</i>'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. <i>T; Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> <i>(NB: Teacher continues the game with different students).</i>

2	Presentation (5 minutes) Introduce 'ide' the target words bride, glide, guide, hide, ride Build key/ target words	-The teacher models the pronunciation of the target rimes and the key words and reminds the words onset and rime, and vowel, to describe the parts of the words. T: <i>The first rime we are going to see today is 'ide'. It is pronounced as /aid/. Say after me /aid/. We can build these words with the rime 'ide'. Look (the teacher points to the first target word and model its pronunciation) say bride. And invite them to read the other words.</i> T: <i>If you read bride you can read glide because both of them have- ide.</i> -The teacher invites a student to come and build the first target word, bride and also tell the onset (the letter) and the rime used to build the word bride. T: <i>Who can come and build the word bride and also tell the onset and rime of the word.</i>
3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	-The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: <i>Who can spell ash orally?</i> T: <i>Look, I can make other words with -ide. For example: slide</i> T: <i>Can you make other rhyming words and non-words with -ide?</i> T: <i>Good. Look at the sentence. She is a pride bride.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.

4	Production (15 minutes) Word Analysis Generating, reading and analyzing rhyming words Spelling with Elkonin box Making orthographic – phonemic links	-The teacher invites the students to analyze the key/target words and complete the word analysis template. T: <i>Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime -ide orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and underline the rime unit and circle the onset. T: <i>Look at these words.</i> pride, ride, side, slide, bide T: <i>Are the words alike? What makes them similar? Can you generate words that share the rime -ide and add to the list of words and underline the rime in each word and circle the onset?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). T: <i>Ok! Now select two or three key/target words with -ide rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: <i>What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
---	--	---

Week Thirteen Session Two

Rime unit - *ore*

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher invites students to play a '<i>One minute summary game</i>'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. <i>T: Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).
2	Presentation (5 minutes) Introduce 'ore' and the target words bore, core, fore, score, shore Build key/ target words	<i>T: Now we are going to see the second rime for this session- 'ore'. It is pronounced as /or/. Say after me /or/. We can build these words with the rime 'ore'. Look (the teacher points to the first target word and model its pronunciation) say bore. And invite them to read the other words.</i> <i>T: If you read bore you can read core because both of them have- ore.</i> -The teacher invites a student to come and build the first target word, ore and also tells the onset (the letter) and the rime used to build the word broke. <i>T: who can come and build the word bore and also tell the onset and rime of the word?</i>

3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	<i>T: How can we spell bore? b-o-r-e</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with –ore. For example: spore Can you make other rhyming words and non-words with –ore?</i> <i>T: Good look at the sentence. They bore by the shore. (NB. Teacher notes whether the students can say sentences, and make rhymes).</i> -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.
4	Production (15 minutes) <i>Word Analysis</i> <i>Generating and reading rhyming words</i> <i>Spelling with Elkonin box</i> <i>Making orthographic phonemic links</i>	The teacher invites the students to analyze the key/target words and complete the word analysis template. <i>T: Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –ore orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and also underline the rime unit and circle the onset in each word. <i>T: look at these words. snore, sore, store, swore, nore</i> <i>T: Are the words alike? What makes them similar? Can you generate words that share the rime –ore and add to the list of words i and underline the rime unit and circle the onset in each word?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). <i>T: Ok now select two or three key/target words with –ore rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. <i>T: What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
	Teacher’s Self-reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i>	

	What were the measures taken to solve the challenges? What lessons did you learn for future improvement?
--	--

Week Thirteen Session Three

Rime units –are

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review rimes and target words from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	The teacher invites students to play a 'One minute summary game'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. <i>T; Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> <i>(NB: Teacher continues the game with different students).</i>
2	Presentation-a (5 minutes) Introduce 'are' the target words bare, care, dare, fare, glare, scare, share Build key/ target words	-The teacher models the pronunciation of the target rimes and the key words and reminds the words onset and rime, and vowel, to describe the parts of the words. <i>T: The first rime we are going to see today is 'are'. It is pronounced as /er/. Say after me /er/. We can build these words with the rime 'are'. Look (the teacher points to the first target word and model its pronunciation) say /ber/. And invite them to read the other words.</i> <i>T: If you read bare you can read care because both of them</i>

		have- are. -The teacher invites a student to come and build the first target word, bare and also tell the onset (the letter) and the rime used to build the word bare. <i>T: Who can come and build the word care and also tell the onset and rime of the word.</i>
3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	-The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Who can spell 'glare' orally?</i> <i>T: Look, I can make other words with –are. For example: blare</i> <i>T: Can you make other rhyming words and non-words with –are?</i> <i>T: Good look at the sentence. I care and share.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.

	Production (15 minutes) Word Analysis Generating, reading and analyzing rhyming words Spelling with Elkonin box Making orthographic – phonemic links	-The teacher invites the students to analyze the key/target words and complete the word analysis template. T: <i>Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime – are orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and underline the rime unit and circle the onset. T: <i>Look at these words.</i> fare, scare, drare T: <i>Are the words alike? What makes them similar? Can you generate words that share the rime –are and add to the list of words and underline the rime in each word and circle the onset?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). T: <i>Ok! Now select two or three key/target words with –ide rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: <i>What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
--	--	---

Week Fourteen Session One

Rime unit - *ake*

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher invites students to play a 'One minute summary game'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. <i>T: Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).
2	Presentation (5 minutes) Introduce 'ake' and the target words bake brake cake fake flake lake Build key/ target words	<i>T: Now we are going to see the second rime for this session- 'ake'. It is pronounced as /ek/. Say after me /ek/. We can build these words with the rime 'ake'. Look (the teacher points to the first target word and model its pronunciation) say /bek/. And invite them to read the other words.</i> <i>T: If you read bake you can read cake because both of them have- ake.</i> -The teacher invites a student to come and build the first target word, ake and also tells the onset (the letter) and the rime used to build the word fake. <i>T: Who can come and build the word lake and also tell the onset and rime of the word?</i>

3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	<i>T: How can we spell cake? c-a-k-e</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with -ake. For example: brake</i> <i>T: Can you make other rhyming words and non-words with -ake?</i> <i>T: Good look at the sentence. They bake a cake by the lake.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.
4	Production (15 minutes) <i>Word Analysis</i> <i>Generating and reading rhyming words</i> <i>Spelling with Elkonin box</i>	-The teacher invites the students to analyze the key/target words and complete the word analysis template. <i>T: Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime -ake orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and also underline the rime unit and circle the onset in each word. <i>T: Look at these words.</i> <i>make, sake, shake, stake, wake, flake, jake, dake</i> <i>T: Are the words alike? What makes them similar? Can you generate words that share the rime -ake and add to the list of words in and underline the rime unit and circle the onset in each word?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). <i>T: Ok! Now select two or three key/target words with -ore rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. <i>T: What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>

	<i>Making orthographic – phonemic links</i>	
	Teacher’s Self-reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>	

Week Fourteen Session Two

Rime units –*ain*

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students’ build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher’s language and scaffolding actions in italics.*

Materials:

Students’ activity booklet

Laminated word cards

Letter cards

Rime cards

Storage bags

Sound box

Word wall

No	Activity	Description
1	Introduction (5 minutes) <i>Review rimes and target words from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	The teacher invites students to play a <i>‘One minute summary game’</i> . The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute.

		T; <i>Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> <i>(NB: Teacher continues the game with different students).</i>
2	Presentation (5 minutes) Introduce ‘ain’ the target words rain, brain, chain, gain, main, pain, train Build key/ target words	-The teacher models the pronunciation of the target rimes and the key words and reminds the words onset and rime, and vowel, to describe the parts of the words. T: <i>The first rime we are going to see today is ‘ain’. It is pronounced as /ain/. Say after me /ain/. We can build these words with the rime ‘ain’. Look (the teacher points to the first target word and model its pronunciation) say dine. And invite them to read the other words.</i> T: <i>If you read gain you can read grain because both of them have-ain.</i> -The teacher invites a student to come and build the first target word, train and also tell the onset (the letter) and the rime used to build the word train. T: <i>Who can come and build the word lain and also tell the onset and rime of the word.</i>
3	Practice (5 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i> (4 minutes)	-The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: <i>Who can spell grain orally?</i> T: <i>Look, I can make other words with –ain. For example: shine, spine</i> T: <i>Can you make other rhyming words and non-words with –ide?</i> T: <i>Good look at the sentence. The chain makes pain on the brain.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.

4	Production (5 minutes) Word Analysis Generating, reading and analyzing rhyming words Spelling with Elkonin box Making orthographic – phonemic links	-The teacher invites the students to analyze the key/target words and complete the word analysis template. T: <i>Alright now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –ain orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and underline the rime unit and circle the onset. T: <i>Look at these words.</i> main, train, frain, hain <i>Are the words alike? What makes them similar? Can you generate words that share the rime –ain and add to the list of words and underline the rime in each word and circle the onset?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). T: <i>Ok now select two or three key/target words with –ain rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: <i>What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
---	---	--

Week Fourteen Session Three

Rime unit - *ash*

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher invites students to play a '<i>One minute summary game</i>'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class within a minute. <i>T: Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).
2	Presentation (5 minutes) Introduce 'ash' and the target words ash, cash, clash, crash, dash, flash Build key/ target words	<i>T: Now we are going to see the second rime for this session- 'ash'. It is pronounced as /af/. Say after me /af/. We can build these words with the rime 'ale'. Look (the teacher points to the first target word and model its pronunciation) say /kaf/. And invite them to read the other words.</i> <i>T: If you read cash you can read clash because both of them have- ash.</i> -The teacher invites a student to come and build the first target word, dash and also tells the onset (the letter) and the rime used to build the word dash. <i>T: Who can come and build the word cash and also tell the onset and rime of the word?</i>

3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	<i>T: How can we spell ‘clash’? c-l-a-s-h</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with –ash. For example: rash, sash</i> <i>T: Can you make other rhyming words and non-words with –ash?</i> <i>T: Good look at the sentence. They clash and crash the sash.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). -The teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.
4	Production (15 minutes) <i>Word Analysis</i> <i>Generating and reading rhyming words</i> <i>Spelling with Elkonin box</i> <i>Making orthographic – phonemic links</i>	-The teacher invites the students to analyze the key/target words and complete the word analysis template. <i>T: Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –ash orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and also underline the rime unit and circle the onset in each word. <i>T: Look at these words.</i> hash, rash, sash, smash, zash, fash <i>T: Are the words alike? What makes them similar? Can you generate words that share the rime –ash and add to the list of words and underline the rime unit and circle the onset in each word?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class.) <i>T: Ok! Now select two or three key/target words with –ash rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put ‘X’ in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. <i>T: What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
	Teacher’s Self-reflection Report <i>What were the major activities covered in this session?</i>	

	<i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>
--	--

Week Fifteen Session one

Rime units –*ack*

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review rimes and target words from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher invites students to play a '<i>One minute summary game</i>'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. T: <i>Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).

2	Presentation-a (5 minutes) Introduce 'ack' the target words back, rack, black, crack, shack Build key/ target words	-The teacher models the pronunciation of the target rimes and the key words and reminds the words onset and rime, and vowel, to describe the parts of the words. <i>T: The first rime we are going to see today is 'ack'. It is pronounced as /ak/. Say after me /ak/. We can build these words with the rime 'ack'. Look (the teacher points to the first target word and model its pronunciation) say claw. And invite them to read the other words.</i> <i>T: If you read back you can read rack because both of them have- ack.</i> -The teacher invites a student to come and build the first target word, back and also tell the onset (the letter) and the rime used to build the word back. <i>T: who can come and build the word rack and also tell the onset and rime of the word.</i>
3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	-The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: who can spell clack orally?</i> <i>T: Look, I can make other words with –ack. For example: crack, jack, lack, pack, quack, rack, stack, shack</i> <i>Can you make other rhyming words and non-words with –ack?</i> <i>Good! Now look at the sentence. I pack the black jack in the sack .</i> <i>(NB. Teacher notes whether the students can say sentences, and make rhymes).</i> -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.

4	Production (5 minutes) Word Analysis Generating, reading and analyzing rhyming words Spelling with Elkonin box Making orthographic – phonemic links	-The teacher invites the students to analyze the key/target words and complete the word analysis template. T: <i>alright now select one word from the list and complete your word analysis template in your activity booklet.be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime – ack orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and underline the rime unit and circle the onset. T: <i>Look at these words.</i> back, black, crack, jack, lack, pack, quack, rack, stack, shack, mack <i>Are the words alike? What makes them similar? Can you generate words that share the rime –ack and add to the list of words and underline the rime in each word and circle the onset?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). T: <i>Ok now select two or three key/target words with –ack rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: <i>What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
---	---	---

Week Fifteen Session Two

Rime unit - *ame*

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher invites students to play a '<i>One minute summary game</i>'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class within a minute. <i>T: Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).
2	Presentation (5 minutes) Introduce 'ame' and the target words came, game, name, blame, flame, shame, chame Build key/ target words	<i>T: Now we are going to see the second rime for this session- 'ame'. It is pronounced as / em/. Say after me /em/. We can build these words with the rime 'ore'. Look (the teacher points to the first target word and model its pronunciation) say blame. And invite them to read the other words.</i> <i>T: If you read blame you can read flame because both of them have- ame.</i> -The teacher invites a student to come and build the first target word, ame and also tells the onset (the letter) and the rime used to build the word broke. <i>Say: who can come and build the word blame and also tell the onset and rime of the word?</i>

3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> Rhyming words and tongue twisters <i>Using Phonemic structure</i>	<i>T: How can we spell blame? b-l-a-m-e</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with –ame. For example: shame, lame Can you make other rhyming words and non-words with –ame?</i> <i>Good look at the sentence. They came, and blame the shame.</i> (NB. Teacher notes whether the students can say sentences, and make rhymes). - Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.
4	Production (15 minutes) <i>Word Analysis</i> <i>Generating and reading rhyming words</i> <i>Spelling with Elkonin box</i> <i>Making orthographic – phonemic links</i>	-The teacher invites the students to analyze the key/target words and complete the word analysis template. <i>T: Alright now select one word from the list and complete your word analysis template in your activity booklet.be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –ame orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and also underline the rime unit and circle the onset in each word. <i>T: look at these words.</i> game, lame, name, same <i>Are the words alike? What makes them similar? Can you generate words that share the rime –ame and add to the list of words and underline the rime unit and circle the onset in each word?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). <i>T: Ok now select two or three key/target words with –ore rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put ‘X’ in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. <i>T: What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
	Teacher’s Self-reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i>	

	<i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>
--	--

Week Fifteen Session Three

Rime units –ail

Objective: This session is designed to provide less controlled practice opportunities to the students manipulate and analyze the letter and sound patterns of target rimes and key words in a less controlled manner and practice rime based analogy strategy to decode more difficult words.

The rime chosen for this session is challenging than the previous rimes. This time, it is assumed that most students are familiar with the routines and procedures of the lesson. Therefore, the focus of the subsequent lessons will be on helping the students' build their confidence in analyzing the letter and sound patterns of the target rimes and key words and use rime based analogy strategy to decode more difficult new words.

** Teacher's language and scaffolding actions in italics.*

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review rimes and target words from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	The teacher invites students to play a <i>'One minute summary game'</i>. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. <i>T; Ok students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> <i>(NB: Teacher continues the game with different students).</i>

2	Presentation-a (5 minutes) Introduce ‘ail’ the target words fail, hail, jail, mail, rail, frail Build key/ target words	-The teacher models the pronunciation of the target rimes and the key words and reminds the words onset and rime, and vowel, to describe the parts of the words. T: <i>The first rime we are going to see today is ‘ail’. It is pronounced as / ell/. Say after me / ell /. We can build these words with the rime ‘ail’. Look (the teacher points to the first target word and model its pronunciation) and invite them to read the other words.</i> T: <i>If you read fail you can read bail because both of them have-ail.</i> -The teacher invites a student to come and build the first target word, fail and also tell the onset (the letter) and the rime used to build the word fail. . T: <i>Who can come and build the word bail and also tell the onset and rime of the word.</i>
3	Practice (5 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	-The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. T: <i>Who can spell rail orally?</i> T: <i>Look, I can make other words with –ail. For example: ail, fail, frail, hail, pail, quail, sail</i> T: <i>Can you make other rhyming words and non-words with –ail?</i> <i>Good look at the sentence. The pail bail fail on the rail</i> <i>(NB. Teacher notes whether the students can say sentences, and make rhymes).</i> -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.

4	Production (5 minutes) Word Analysis Generating, reading and analyzing rhyming words Spelling with Elkonin box Making orthographic – phonemic links	-The teacher invites the students to analyze the key/target words and complete the word analysis template. T: <i>Alright, now select one word from the list and complete your word analysis template in your activity booklet. be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –ail orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and underline the rime unit and circle the onset. T: <i>Look at these words.</i> pail, quail, rail, sail, prail, zail T: <i>Are the words alike? What makes them similar? Can you generate words that share the rime –ail and add to the list of words and underline the rime in each word and circle the onset?</i> (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). T: <i>Okay! Now select two or three key/target words with –ail rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box.</i> -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. Say: <i>What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words?</i>
---	---	--

* Teacher's language and scaffolding actions in italics.

Materials:

Students' activity booklet

Letter cards

Rime cards

No	Activity	Description
1	Introduction (5 minutes) <i>Review words and prose from last sessions</i> <i>Oral work in rhyming</i> <i>Breaking words into onset / rime units</i>	-The teacher invites students to play a 'One minute summary game'. The teacher asks students randomly recall the target rime and key word from the last session and also segment the word and tell the onset, vowel and rime unit of the word to the class with in a minute. <i>T: Ok! Students now we are going to play a game. The game is to remember the rime unit and a key word from the last session segment the word and tell the onset, the vowel and the rime of the word within a minute.</i> (NB: Teacher continues the game with different students).
2	Presentation (5 minutes) Introduce 'ell' and the target words bell, cell, fell, sell, shell, smell Build key/ target words	<i>T: Now we are going to see the second rime for this session- 'ell'. It is pronounced as /eɪ/. Say after me /eɪ/. We can build these words with the rime 'eɪ'. Look (the teacher points to the first target word and model its pronunciation) say bell. And invite them to read the other words.</i> <i>T: If you read cell you can read fell because both of them have- ell.</i> -The teacher invites a student to come and build the first target word, ell and also tells the onset (the letter) and the rime used to build the word broke. <i>T: Who can come and build the word cell and also tell the onset and rime of the word?</i>
3	Practice (15 minutes) <i>Using letters</i> <i>Using phonological structure</i> <i>Rhyming words and tongue twisters</i> <i>Using Phonemic structure</i>	<i>T: How can we spell fell? F-e-l-l</i> -The teacher suggests other words that rhyme or alliterate with the pattern, to transfer knowledge. Makes up rhymes based on the pattern. <i>T: Look, I can make other words with -ell. For example: smell, tell, well, yell, swell</i> <i>T: Can you make other rhyming words and non-words with -ell?</i> <i>T: Good look at the sentence. Know well about the hell.</i> • (NB. Teacher notes whether the students can say sentences, and make rhymes). -Teacher asks the students to segment the key words into sounds and tell the similarities and difference among the words.
4	Production (15 minutes) Word Analysis	-The teacher invites the students to analyze the key/target words and complete the word analysis template. <i>T: Alright, now select one word from the list and complete your word analysis</i>

		<i>template in your activity booklet.be ready to analyze your word orally.</i> (NB: Can the students blend and segment words? The teacher monitors students work and ask individual students to read their word analysis to the class). -The teacher tells as many rhyming words with the target rime –ell orally from the list on the chart paper. The words can be non-words and guides students to generate as maximum number of rhyming words and add to the list on their activity booklet and also underline the rime unit and circle the onset in each word. Generating and reading rhyming words T: Look at these words. bell, cell, fell, sell, shell, smell, spell, tell, well, yell, swell, rell T: Are the words alike? What makes them similar? Can you generate words that share the rime –ay and add to the list of words and underline the rime unit and circle the onset in each word? (NB: Can the students generate and write rhyming words? The teacher monitors students work and ask individual students to read their word list to the class). T: Ok, now select two or three key/target words with –ell rime from the list and complete your Elkonin box in your activity booklet. Remember you write one sound per box not letter but sound and put 'X' in any remaining box. Spelling with Elkonin box -The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds. T: What makes these words similar and different? How can you further develop these words? How can you remember the spellings of these words? Making orthographic – phonemic links
	Teacher's Self-reflection Report <i>What were the major activities covered in this session?</i> <i>What were the major challenges faced in this session?</i> <i>What were the measures taken to solve the challenges?</i> <i>What lessons did you learn for future improvement?</i>	

Appendix B: Control group's word study and vocabulary lessons from Grade Three English textbooks

Book 1		Book 2	
Unit	Contents	Unit	Contents
1	Word study: Practicing consonant and consonant clusters - /f/, /k/, /m/, /th/ and /lk/, /mp/. words stamp, tamp and lamp — segmenting the words. Vocabulary: Reading the words walk, chalk and talk in the student book.	6	Word Study: Read the word daytime out loud. Say each word slowly so students can hear the different words that form the compound word. Vocabulary: Write the numbers about time using minutes 60, 61, 62, 63, 64, 65, 66 and 67 on the board. Read the words sixty, sixty-one, sixty-two, sixty-three, sixty-four, sixty-five, sixty-six and sixty-seven out loud as you point to the correct number on the board Word Study: Read the words split, spleen, spring and string which begin with spl- and spr- out loud. Ask students to repeat the word out loud after you Vocabulary: Read the words months, holidays, September and celebrate out loud. Ask students to repeat each word out loud after you.
2	Word study: Read the words: sleepy, gently, and hungry out loud. Say the words slowly so students can hear the different sounds that form the word. Example: fam-i-ly and sleep-y. Tell students that all of the words end in the letter y, but it has an /ee/ sound. Segment the words by saying them slowly. Then blend the words by saying them faster as whole words. Read the words tells, shows, asks, helps, and reads out loud. Stress the final /s/ sound in each word, showing inflection. - Vocabulary Tell students to say the words father, mother, grandmother, grandfather, niece and nephew out loud focusing on the final sounds.	7	Word Study: Read the words laugh, cough, enough, and rough out loud. Stress the final letters -gh in each word. Vocabulary: Read the words trousers, sweater, skirt, shorts, scarf and shirt out loud. Word Study: Read the words clothes, holidays, shops and sandals out loud. Stress the final /s/ sound Vocabulary: Read the text again and find words which mean indicate, differ, edge, clothing and time. -Ask students to repeat each word out loud after you final /s/ sound in each word. Vocabulary; Read the words however, but, occasions, traditional out loud. Word Study: Read the words colder, taller and longer out loud. Stress the final /er/ sound in each word. Read the words white, jacket and coat out loud.

3	- Word study-Read the words: color, cup, curve and circle out loud. Stress the initial sound in each word. And pronounce words that have silent letter: know, knife, wrong, write and wrist -Vocabulary-Read the words circle, orange, cabbage, potato and tomato out loud. Say each syllable slowly so that students can hear the different sounds at the beginning, middle and end of the word. /s/ as circle, /k/ as carrot, cabbage / / as cabbage-final / / as tomato-final -Word study-Read the words planting, watering, looking and working out loud. Stress the final -ing sound in each word. -Read the words: screw, screen, square and squad which begin with scr- and squ- out loud. Stress the initial sound in each word.	8	Vocabulary; Read the words teacher, doctor, farmer and carpenter out loud. Word Study: Read the word workplace out loud. Say each word loudly so students can hear the different words that form the compound words. Vocabulary: Read the words near, next opposite, first floor, ground floor and in front of out loud. Ask students to repeat each word out loud after you Word Study: Read the words sweat, sweet, sweep and swim out loud. Vocabulary: Read the words plants, water and cook out loud.
4	Word study Read the words: watch, match, catch and fetch out loud. Stress the final sound in each word. Ask students to repeat each word out loud after you. Vocabulary: Read the words breakfast, lunch and dinner out loud. Ask students to repeat after you as a chorus to say the words Word study; Read the word classroom out loud. Say the word slowly so students can hear the different words that form the compound word. Vocabulary; Read the words breakfast, sometimes, football and homework out loud. Say each word slowly so students can hear the different words that form the compound word. Word study: Read the words: washing, cleaning digging ring, king and sing out loud. Stress the final sound in each word and c-v-c in the word digging. Vocabulary; Read the words doing, watering, cleaning, washing, digging, planning and planting out loud Unit -5 -Word study: Read the words disobey and dislike out loud. Say the words slowly so students can hear the prefix dis- and the root words separately.	9	Word Study: Read the words grass, green, goat, grain, gnaw and gnome out loud. Focus on stressing the initial sound in the words. Vocabulary: Read the singular and plural words for animals in the student book out loud. Vocabulary: Read the words cows, goats, oxen and camels out loud. Ask students to repeat each word out loud after you. Unit-10 Word Study: Read the words wash, brush, rush and toothbrush out loud. Stress the final /sh/ sound in each word Vocabulary: Read the words toothbrush, teeth and healthy out loud. Word Study: Read the words broom, sweep, roof, floor, door, cloth, wood and dirt out loud. Ask students to repeat each word out loud after you. Tell students to practise saying each word out loud with a partne Read the words ceiling, desks, windows and floor out loud. Word Study: Read the words razors, needles

	-Vocabulary: Tell students to write three sentences using the words tea, food and drinks. -Word Study: Read the words: spoon, stop, study, sport, smart, smell and small out loud which begin with sp- , st- and sm- and sk students to repeat each word out loud after you		and forks out loud. Ask students to repeat each word out loud after you Vocabulary: Read the words knife, pieces, scissors, collect and garbage out loud. Ask students to repeat each word out loud after you
--	--	--	--

Appendix C: Teachers' Training Guide

Introduction

This manual is designed to train teachers related to literacy instruction who are going to take part in the research project and teach selected Grade Three students. Sessions are grouped into specific topics to provide teachers the opportunity to learn new instructional techniques to support them in their successful implementation of the Rime Based Phonics training based intervention strand for primary classes. Between sessions, teachers are encouraged to practice their newly acquired knowledge and techniques in their classrooms and to share their experiences at the beginning of the following session.

The table below provides a suggested training topics spread over five days:

Day	Training Topic	Participants	Length	Resources needed
1	Session 1: Components of basic reading skills	Both control and experimental teachers individually	2 hrs.	Teacher training manual, LCD projector, definition cards
2	Session 2: Whole word vs. phonics	Both control and experimental teachers individually	2 hrs.	Teacher training manual, LCD projector, Grade Three English text book
3	Session 3: Rime based phonics methods (only for the experimental group teacher)	Only the experimental group teacher	2 hrs.	LCD projector, rime chart with 37 dependable rime units, rime cards
4	Session 4: Navigating through teachers' guide and reviewing students teaching lessons	Only the experimental group teacher	2 hrs.	Teachers' guide with Students' teaching lessons
5	Micro teaching	Only the experimental group teacher	2 hrs.	Teachers' guide with Students' teaching lessons, phoneme cards, rime cards

Training Day One

Session One: Components of basic reading skills	
Objective: To learn the type and nature of basic reading skills.	Learning outcomes: At the end of this session, teachers should be able to: identify components of basic reading skills Talk about the importance of each component of basic

2 hours	reading skill
Materials: Definition card	

INTRODUCTION TO READING ACQUISITION	Time: 1 hour
-------------------------------------	--------------

Say

The objective of this session is to understand the progression of five foundational literacy skills.

Discussion

Ask the teacher to think and discuss this question with you: How do you teach reading to your learners?

After several minutes, ask the teacher to reflect on their experiences of teaching reading .

Say

In this session, you will learn about five key reading skills. These skills build on each other over time, until a learner becomes a good reader.

Research has shown that these skill areas are critical for reading acquisition.

You can use these techniques with the Curriculum or text book.

Display the slide

oral language

phonological awareness

alphabetic principle

fluency

comprehension

INTERCONNECTEDNESS OF BASIC SKILLS	Time: 1 hour
------------------------------------	--------------

Provide

Provide the following definitions cards to the teacher:

The ability to speak and understand a language. It is the foundation of

The ability to connect sounds with written

The ability to hear and say the individual sounds in

The ability to read quickly, accurately, and with expression.

The ability to understand what is read. It is the goal of reading.

Activity

Point to term “oral language” on the slide. Ask the teacher read the definition aloud the definition next to the correct term. Repeat this process for phonemic awareness, alphabetic principle, fluency and comprehension.

Give participants several minutes to copy each term and definition in their notebook.

Say (Give input)

These five skills are closely linked together—they strengthen each other. *Discuss each of the five basic reading skills briefly with the teacher.*

Oral language helps children develop vocabulary, grammar and comprehension skills that can later be applied to reading. Oral language development is especially important when children are first learning a new language, such as English in South Sudan.

Phonemic awareness refers to hearing and saying individual sounds. For example, a person can *hear* that the first sound in “dog” is /d/, even if they cannot read “d.”

The alphabetic principle (or phonics) builds on phonemic awareness. It means that learners can connect sounds to written letters. If learners can *hear* that the first sound in “dog” is /d/, the alphabetic principle allows them to connect the sound to the written letter “d.”

Fluency builds on the alphabetic principle. When learners can effortlessly connect sounds to letters, it becomes easier to read quickly, accurately and with expression. Good oral language skills (known as speaking fluently) will also help learners read fluently.

Comprehension builds on all of these skills. If learners can read fluently, they can focus on understanding a text rather than just pronouncing the words. In addition, if learners can understand oral language well, it will be easier for them to understand written texts.

Ask

Are there questions?

TIMING OF LITERACY SKILLS	
---------------------------	--

Show the slide

Approximate Ages at Which Skills Should Be Developed	
Oral language	Age 0–adult
Phonemic awareness	Age 5–6
Alphabetic principle	Age 6–8
Fluency	Age 7–10
Reading comprehension	Age 7–adult

Say

These skills are taught at different times, although they overlap. These are approximate ages at which these skills should be developed, but it varies by school and individual child. Teachers should adapt to the particular needs of their school and learners.

Ask

According to the ages written on the slide, which skills are taught in Grade1? Which are taught in Gread 2? Which are taught in Grade3?

Training- Day Two

Session One1: Methods of teaching basic reading skills	
Objective: To learn the type of basic reading skills instruction.	Learning outcomes: At the end of this session, teachers should be able to: Identify the two basic reading skills instruction Talk about the characteristics of whole vs. phonics methods Demonstrate a min lesson with either the whole word or phonics method
2 hours	
Materials: Teacher training manual, Grade Three students' Text book.	

INTRODUCTION TO BASIC READING INSTRUCTION	Time: 1 hour
---	--------------

Say

The objective of this session is to understand the two approaches of teaching basic reading skills.

Discussion

Ask the teacher to think and discuss this question with you: What methods do you use to teach reading to your learners?

After several minutes, ask the teacher to reflect on their experiences of teaching reading.

Say (Give input)

In this session, you will learn about the methods of teaching reading.

Display the slide

There are two main theoretical approaches to teaching reading: Whole Word and Phonics.

WHOLE WORD

Expects child to learn reading as *naturally* as in language development.

Uses child's oral language and word knowledge for reading.

Uses child's oral language as basis for spelling instruction.

Teaches *whole words* in word families.

Children learn to read by reading and re-reading big books together with the teacher and then the teacher gradually withdraws prompts so a child appears to be reading that book.

Students are not explicitly taught that there is a relationship between letters and sounds.

THE PHONICS APPROACH OR SKILLS BASED APPROACH

The skills based approach is well supported by research for effective instruction in beginning reading. It can be applied in the teaching of emergent/early readers. This approach has been found to be the most effective in teaching reading and can help reduce the number of children struggling in learning to read. It also helps students with special needs.

According to this approach, reading:

Must be explicitly taught – the teacher models new skills and practices the new skill(s) with the students before the students are expected to use them independently, on their own.

Must be systematically organized and sequenced – there is a logical order and progression to teaching reading that is tied to the phases discussed in this chapter.

Must include learning how to blend sounds together.

Can be adapted to the needs of individual students.

Ask

-Which approach do you use in your classroom?

- What do you think the advantage and disadvantage of each approach?

Discussion (Have a conversation with the teacher)

Encourage teacher to share his/her experiences and reflect his/her idea.

DEMONSTRATION LESSON	Time: 1 hour
----------------------	--------------

Say

Now select a lesson from this text book and prepare and present a demo lesson either in whole word or phonics method.

Ask

Why did you select this method?

Discussion

Encourage the teacher to reflect on his/her demo lesson.

Training Day Three

Session One: Rime based phonics method	
Objective: To learn the characteristics of rime based phonics methods	Learning outcomes: At the end of this session, teachers should be able to: Identify the difference between rhyme and rime Generate rhyming words Segment words into onset -rime Talk about the importance rime units
2 hours	
Materials: Rime chart with 37 dependable rime units, rime cards	

INTRODUCTION TO ONSET RIME UNITS	Time: 1 hour
----------------------------------	--------------

Say

The objective of this session is to understand the function of rime units in teaching basic reading skills.

Discussion

Ask the participant to think and discuss this question with you: what do you know about onset-rime? What about rhyme?

After some minutes, ask the teacher to reflect on his/her answer.

Say

In this session, you will learn about the rime units.

Research has shown that rime units are critical for reading acquisition.

We will see how rime units help learners to read.

Display the slide

Onset and Rime: The "onset" is the initial phonological unit of any word (e.g. c in cat) and the term "rime" refers to the string of letters that follow, usually a vowel and final consonants (e.g. at in cat). ... This can help students decode new words when reading and spell words when writing.

Rhyming words: A rhyme is a repetition of similar sounds (usually, exactly the same sound) in the final stressed syllables and any following syllables of two or more words.

Provide

Provide the paper with 37 dependable rime units to the teacher.

Activity

Point to each rime unit on the slide. Ask the teacher to pronounce each aloud. Repeat this process with you.

Give participants several minutes to form word families using as many rime units as possible.

Say (Give input)

Rime units are important because.

They reduce the vowel inconsistency. Vowels in rime units are consistent.

It is easy for students to segment words into onset rime than into phonemes.

Rimes used to read words by analogy. For example if a student knows light, he/she can read fight by analogy to light.

The 37 dependable rime units help to read 500 words.

Ask

Are there questions?

RIME BASED PHONICS	Time: 1 hour
--------------------	--------------

Show the slide

There are different types of phonics methods

Synthetic phonics- uses small units or sounds as functional units of teaching. For example /k-a-t/.

Analogy or rime based phonics- uses rimes as a teaching unit. For example /k-at/.

Training Day Four

Session One: Navigating through students' teaching lessons	
Objective: To learn design and activities in each of students' teaching lessons	Learning outcomes: At the end of this session, teachers should be able to: Identify the lessons stages in students teaching lessons Explore the activities in students teaching lessons
2 hours	
Materials: teachers' guide with students' lessons	

Appendix D: Testers' Booklet

General Instructions

It is important to establish a playful and relaxed rapport with the students to be assessed, via some simple initial conversation among topics of interest to the student (see example below). The student should perceive the following assessment almost as a game to be enjoyed rather than a severe situation. It is important to read ONLY the sections in boxes aloud slowly and clearly.

Verbal Consent. Read the text in the box clearly to the child:

Good morning. My name is _____ and I live in _____. I'd like to tell you a little bit about myself. (Number and ages of children; pets; sports; etc) Could you tell me a little about yourself and your family? (Wait for response; if student is reluctant, ask question 2, but if they seem comfortable continue to verbal consent). What do you like to do when you are not in school?
--

Verbal Consent

Let me tell you why I am here today. My colleague is trying to understand how Ethiopian students can learn to read in English easily. You were picked by chance, like in a lottery.

We would like your help in this. But you do not have to take part if you do not want to.

We are going to play a reading game. I am going to ask you to read letters, words and a short story out loud.

This is NOT a test and it will not affect your grade at school.

I will NOT write down your name so no one will know these are your answers.

Once again, you do not have to participate if you do not wish to. Once we begin, if you would rather not answer a question, that's all right.

Do you have any questions? Are you ready to get started?

Check box if verbal consent is obtained: YES ☐

(If verbal consent is not obtained, thank the child and move on to the next child, using this same form)

Data of Test:	Day: _____ Month: _____
Tester's name:	
School Name:	
Test Shift:	1 = Full day 2 = Morning 3 = Afternoon
Phase of Test	1 = Pre- test 2 = Post-test

J. Students code	
L. Student Age:	
M. Time Started: ____ : ____	

Section 1. Phonemic Awareness Test (PA)

General Instruction

This is a listening exercise and has 11 sub tasks. THERE IS NO STUDENT SHEET. Read aloud each word/sound twice, and have the student say the sounds/word. If the child does not respond after 3 seconds, mark as "No response" and say the next prompt. Enunciate clearly, but do not overemphasize the sounds of each word.

Early stop rule: If the child responds incorrectly or does not respond to the first three words, say "Thank you!", discontinue this exercise, check the box at the bottom of the page, and go on to the next exercise.

Section 1a. Rhyme recognition (RC)

Say: Two words that sound the same at the end are rhyming words, such as hat and sat. Do sit and bit rhyme? (Yes) Do chair and boy rhyme? (No) (If the child appears to grasp the skill, do the same for the following pairs of words. Put a check in the box to the right of the pair if the child answers correctly). I will say each word two times. Listen to the word, and then tell me the words are rhyming words or not.

Do you understand what you are to do?

[If the child says no] Say: Remember, tell me if the words you hear rhyme or not. Try your best.

Now tell me if these words rhyme

Fat sat ☐

Cake shake ☐

Fin fit ☐

Look	book	
Play	stop	
Tall	ball	
Bell	bed	

Check this box if the exercise was discontinued because the child had no correct answers in the first three words.

☐

Score=

Section 1b. Rhyme production (RP)

Say: I'm going to say a word and I want you to tell me a word that rhymes with it. (The answer can be a real word or a nonsense word.) Can you tell me a word that rhymes with sit? (Possible answers may include: bit, fit, mit, pit, dit, jit, etc. Put a check in the box to the right if the child answers correctly. Write down his/her answers on the lines provided. I will say each word two times. Listen to the word, and then tell me a word that rhymes with it.

Do you understand what you are to do?

[If the child says no] Say: Remember, tell me a word that rhymes with my word. Try your best.

Now tell me a word that rhyme with

Pan	
Cake	
Fine	
Short	
Dark	
Best	
Red	

Check this box if the exercise was discontinued because the child had no correct answers in the first three words.

☐

Score=

Section 1c. Rime segmentation (RS)

I want you to tell me the first and following sounds found in the word. For example, in the word “man”, the two sounds are “/m/ and /an/”. In this exercise, I would like you to tell me the sounds you hear first and flowing in each word. I will say each word two times. Listen to the word, and then tell me the sounds in that word.

Do you understand what you are to do?

[If the child says no] Say: Remember, tell me the sounds you hear. Try your best.

What are the first and following sounds in “_____”? “_____”? [Repeat the word twice]					
sit	/s-it/	Correct	Incorrect	Don’t know	No Response
bat	/b- ʌ t/	Correct	Incorrect	Don’t know	No Response
Kill	/k-il/	Correct	Incorrect	Don’t know	No Response
bank	/b-ank/	Correct	Incorrect	Don’t know	No Response
make	/m-ake/	Correct	Incorrect	Don’t know	No Response
shop	/s-op/	Correct	Incorrect	Don’t know	No Response
plan	/pl-an/	Correct	Incorrect	Don’t know	No Response

Check this box if the exercise was discontinued because the child had no correct answers in the first three words.

☐

Score=

Section 1d. Rime blending (RBL)

I want you to tell me the word after hearing the sounds. For example, in the sounds “k-an”, is the word “can”. In this exercise, I would like you to tell me the word. I will say each sound two times. Listen to the sounds, and then tell me the word.

Do you understand what you are to do?

[If the child says no, say]: Remember, tell me the sounds you hear. Try your best.

What word is “_____”? [Repeat the sounds twice]

/t-op/	Top	Correct	Incorrect	Don't know	No Response
/k-aw/	Cow	Correct	Incorrect	Don't know	No Response
/t-ik/	Tick	Correct	Incorrect	Don't know	No Response
/dr-ink/	Drink	Correct	Incorrect	Don't know	No Response
/ʃ -e-l/	Shell	Correct	Incorrect	Don't know	No Response
/kl-ip/	Clip	Correct	Incorrect	Don't know	No Response
/ts--3- s-t/	Chest	Correct	Incorrect	Don't know	No Response

Check this box if the exercise was discontinued because the child had no correct answers for the first three words.

☐

Score=

Section 1e. Phoneme segmentation (PS)

I want you to tell me each sound found in the word. For example, in the word “pot”, the three sounds are “/p/ /o/ and /t/”. In this exercise, I would like you to tell me the sounds you hear in each word. I will say each word two times. Listen to the word, and then tell me the sounds in that word.

Do you understand what you are to do?

[If the child says no] Say: Remember, tell me the sounds you hear. Try your best.

What are the ____ (number of) sounds in “_____”? “_____”? [Repeat the word twice]					
at	/a-t/	Correct	Incorrect	Don't know	No Response
bug	/b- ʌ -g/	Correct	Incorrect	Don't know	No Response
need	/n-i-d/	Correct	Incorrect	Don't know	No Response
bell	/b-e-l/	Correct	Incorrect	Don't know	No Response
shark	/ts-a-r-k/	Correct	Incorrect	Don't know	No Response
jump	/j-a-m-p/	Correct	Incorrect	Don't know	No Response
king	/k-i-n-g/	Correct	Incorrect	Don't know	No Response

Check this box if the exercise was discontinued because the child had no correct answers in the first three words.

☐

Section 1f. Blending (PBL)

I want you to tell me the word after hearing the sounds. For example, in the sounds “k-a-n”, is the word “can”. In this exercise, I would like you to tell me the word. I will say each sound two times. Listen to the sounds, and then tell me the word.

Do you understand what you are to do?

[If the child says no, say]: Remember, tell me the sounds you hear. Try your best.

What word is “_____”? [Repeat the sounds twice]					
/i-n/	In	Correct	Incorrect	Don’t know	No Response
/k-a-m/	Come	Correct	Incorrect	Don’t know	No Response
/k-o-t/	Cot	Correct	Incorrect	Don’t know	No Response
/b-l-a-n-k/	Blank	Correct	Incorrect	Don’t know	No Response
/f-e-l /	Fail	Correct	Incorrect	Don’t know	No Response
/k-i-k/	Kick	Correct	Incorrect	Don’t know	No Response
/ts—i-p/	Chip	Correct	Incorrect	Don’t know	No Response

Check this box if the exercise was discontinued because the child had no correct answers for the first three words.

☐

Score=

Section 1g. Deletion of initial phoneme (DEIP)

I want you to tell me a new word by deleting the first sound of the word which I am going to tell you. For example, in the word “ball” if you delete the first sound /b/, a new word “all” will emerge. I will say each sound two times. Listen to the sounds, delete the first sound and then tell me the word.

Do you understand what you are to do?

[If the child says no, say]: Remember, tell me the sounds you hear. Try your best.

Say (target word). Say (target word) without the first sound [Repeat the target word twice]					
bat	At	Correct	Incorrect	Don’t know	No Response
fill	Ill	Correct	Incorrect	Don’t know	No Response
clip	Lip	Correct	Incorrect	Don’t know	No Response
beat	Eat	Correct	Incorrect	Don’t know	No Response
train	Rain	Correct	Incorrect	Don’t know	No Response

bring	Ring	Correct	Incorrect	Don't know	No Response
stick	Tick	Correct	Incorrect	Don't know	No Response

Check this box if the exercise was discontinued because the child had no correct answers for the first three words

☐ Score= ☐

Section 1h. Deletion of final phoneme (DEFP)

I want you to tell me a new word by deleting the final (last) sound of the word which I am going to tell you. For example, in the word "cart" if you delete the final sound /t/, a new word "car" will emerge. I will say each sound two times. Listen to the sounds, delete the final sound and then tell me the word.

Do you understand what you are to do?

[If the child says no, say]: Remember, tell me the sounds you hear. Try your best.

Say (target word). Say (target word) without ____ (the final sound) [Repeat the target word twice]					
pink	Pin	Correct	Incorrect	Don't know	No Response
ward	War	Correct	Incorrect	Don't know	No Response
been	Bee	Correct	Incorrect	Don't know	No Response
tear	Tea	Correct	Incorrect	Don't know	No Response
cart	car	Correct	Incorrect	Don't know	No Response
cant	can	Correct	Incorrect	Don't know	No Response
band	Ban	Correct	Incorrect	Don't know	No Response

Check this box if the exercise was discontinued because the child had no correct answers for the first three words

☐ Score= ☐

Section 1i. Initial phoneme substitution (IPSU)

I want you to tell me a new word by replacing the first sound of the word with the sound which I am going to tell you. For example, say the word "cat" instead of /k/ but with /f/. A new word "fat" will emerge. I will say each sound two times. Listen to the sounds, replace the first sound with the given one and then tell me the word.

Do you understand what you are to do?

[If the child says no, say]: Remember, tell me the sounds you hear. Try your best.

Say (target word). Instead of (first phoneme) begin a new word with (new phoneme)					
---	--	--	--	--	--

sick /s/ with /k/	Kick	Correct	Incorrect	Don't know	No Response
pine /p/ with/ n/	Nine	Correct	Incorrect	Don't know	No Response
link /l/ with/ p/	Pink	Correct	Incorrect	Don't know	No Response
pest /p/ with /t/	Test	Correct	Incorrect	Don't know	No Response
meat /m/ with /s/	Seat	Correct	Incorrect	Don't know	No Response
grill /g/ with /d/ /	Drill	Correct	Incorrect	Don't know	No Response
bray /b/ with/ k/	Cray	Correct	Incorrect	Don't know	No Response

Check this box if the exercise was discontinued because the child had no correct answers for the first three words

☐ Score=

Section 1j. Final phoneme substitution (FPSU)

I want you to tell me a new word by replacing the final sound of the word with the sound which I am going to tell you. For example, say the word "cat" instead of /t/ but with /p/. A new word "cap" will emerge. I will say each sound two times. Listen to the sounds, replace the first sound with the given one and then tell me the word.

Do you understand what you are to do?

[If the child says no, say]: Remember, tell me the sounds you hear. Try your best.

Say (target word). Instead of (the final phoneme) begin a new word with (new phoneme)					
pit /t/ with /n/	Pin	Correct	Incorrect	Don't know	No Response
wet /t/ with /b/	Web	Correct	Incorrect	Don't know	No Response
park /k/ with/ t/	Tank	Correct	Incorrect	Don't know	No Response
mess /s/ with/ n/	Men	Correct	Incorrect	Don't know	No Response
late /t /with m	Late	Correct	Incorrect	Don't know	No Response
rope /p/ with /d/	Rod	Correct	Incorrect	Don't know	No Response
fame /m/ with /s/	Face	Correct	Incorrect	Don't know	No Response

Check this box if the exercise was discontinued because the child had no correct answers for the first three words

☐ Score=

Section 2. Test of Word Recognition

Section 2a. Familiar word reading (FWR)

Give the child the sheet of words on the students' stimuli sheet 1. Say,

Here are some words. Please read as many words as you can (do not spell the words, but read them). For example, this word is: "boy".
Let's practice: please read this word [point to the word "sick"]:
If the child responds correctly say: Good, this word is "sick."
If the child does not respond correctly, say: This word is "sick."
When I say "begin," read the words as quickly and carefully as you can. Read the words across the page, starting at the first row below the line. I will keep quiet and listen to you, unless you need help. Do you understand what you are to do? Read? Begin.

Tell the child reads the first word. Follow along with your pencil and clearly mark any incorrect words with a slash (/). Count self-corrections as correct. Stay quiet, except when providing answers as follows: if the child hesitates for 3 seconds, read the word, point to the next word and say "Please go on." Mark the word you read to the child as incorrect.

Early stop rule: If you have marked as incorrect all of the answers on the first line with no self-corrections, say "Thank you!", discontinue this exercise, check the box at the bottom, and go on to the next exercise.

Example:	cat	sick				
1	2	3	4	5		
Hat	pan	tap	fit	mug	(5)	
Lip	Jot	caw	day	win	(10)	
Bank	jump	ring	test	sink	(15)	
Heat	care	fail	game	right	(20)	
Hill	lock	dash	back	kick	(25)	
Shop	plan	flat	drug	skin	(30)	
Chip	shit	twin	clay	draw	(35)	
Chest	frank	blink	bring	drunk	(40)	

Check this box if the exercise was discontinued because the child had no correct answers in the first line.

Score =

☐

Section 2b. Invented (pseudo) words reading (IWR)

Show the child the sheet of invented words in the student stimuli booklet. Say,

Here are some made-up words. I would like you to read me as many as you can. Do not spell the words, but read them. For example, this made-up word is: “ut”.

Let’s practice: please read this word [point to the next word: dif].

[If the student says “dif”, say] **“Very good: dif”**

[If the student does not say “dif” correctly say]: **This made-up word is “dif.”**

When I say “begin,” read Do you understand what are you supposed to do? When I say “begin,” read the words as best as you can. I will keep quiet and listen to you, unless you need help. Ready? Begin.

Tell the child reads the first word. Follow along with your pencil and clearly mark any incorrect words with a slash (/). Count self-corrections as correct. **Stay quiet**, except when providing answers as follows: if the child hesitates for 3 seconds, provide the word, point to the next word and say **“Please go on.”** Mark the word you provide to the child as incorrect.

Early stop rule: If you have marked as incorrect all of the answers on the first line with no self-corrections, say **“Thank you!”**, discontinue this exercise, check the box at the bottom, and go on to the next exercise.

Example:	dat	hine	tmup	
1	2	3	4	5
lat	Jan	rit	vaw	kay (5)
nop	Zot	wip	nug	vap (10)
lill	nash	fock	huck	zail (15)
gice	weat	jake	nate	Vack (20)
nake	nide	zine	nale	Jain (25)
zlan	prat	glaw	brit	Blay (30)
klot	shrop	brap	brip	Crin (35)
druck	glack	chake	blash	Glock (40)

☐

Check this box if the exercise was discontinued because the child had no correct answers in the first line.

☐

Section 2c. Non-instructed words reading

Give the child the sheet of words on the students' stimuli sheet 1. Say,

Here are some words. Please read as many words as you can (do not spell the words, but read them). For example, this word is: "still".

Let's practice: please read this word [point to the word "awake"]:

If the child responds correctly say: **Good, this word is "awake."**

If the child does not respond correctly, say: **This word is "awake."**

When I say "begin," read the words as quickly and carefully as you can. Read the words across the page, starting at the first row below the line. I will keep quiet and listen to you, unless you need help. Do you understand what you are to do? Read? Begin.

Tell the child reads the first word. Follow along with your pencil and clearly mark any incorrect words with a slash (/). Count self-corrections as correct. **Stay quiet**, except when providing answers as follows: if the child hesitates for 3 seconds, read the word, point to the next word and say "**Please go on.**" Mark the word you read to the child as incorrect.

Early stop rule: If you have marked as incorrect all of the answers on the first line with no self-corrections, say "**Thank you!**", discontinue this exercise, check the box at the bottom, and go on to the next exercise.

Example: still awake wring

1	2	3	4	5
bot	Ray	tick	rink	Hunk
pat	top	gill	take	Wing
not	Pay	wick	sink	Junk
vat	Pop	mill	rake	Bring
got	Prop	flick	wink	Punk
tat	Flop	pill	sake	swing
plot	Play	trick	think	Sunk
slat	Gray	slick	stink	Trunk

Score

Appendix E: Students' Stimuli Sheet

Section 2a: Familiar word reading

1	2	3	4	5	
Hat	Pan	tap	fit	mug	(5)
Lip	Jot	caw	day	win	(10)
Bank	jump	ring	test	sink	(15)
Heat	care	fail	game	right	(20)
Hill	lock	dash	back	kick	(25)
Shop	plan	flat	drug	skin	(30)
Chip	Shit	twin	clay	draw	(35)
Chest	frank	blink	bring	drunk	(40)

Section 2b: Invented (Pseudo) word reading

1	2	3	4	5	
Lat	Jan	rit	vaw	kay	(5)
Nop	Zot	wip	nug	vap	(10)
Lill	nash	fock	huck	zail	(15)
Gice	weat	jake	nate	vack	(20)
Nake	nide	zine	nale	jain	(25)
Zlan	Prat	glaw	brit	blay	(30)
Klot	shrop	brap	brip	crin	(35)
Druck	Glack	chake	blash	glock	(40)

Section 2c : Non-instructed words reading

1	2	3	4	5
bot	Ray	tick	rink	hunk
pat	top	gill	take	wing
not	Pay	wick	sink	junk
vat	Pop	mill	rake	bring
got	Prop	flick	wink	punk
tat	Flop	pill	sake	swing
plot	Play	trick	think	sunk
slat	Gray	slick	stink	trunk

Appendix F: Test/Retest Reliability Result

Test/retest correlations for phonological awareness

		RToPAPre	RToPAPost
RToPAPre	Pearson Correlation	1	.978**
	Sig. (2-tailed)		.000
	N	8	8
RToPAPost	Pearson Correlation	.978**	1
	Sig. (2-tailed)	.000	
	N	8	8

** . Correlation is significant at the 0.01 level (2-tailed).

Test/retest correlations for word recognition

		RWordRecoPre	RWordRecoPos t
RWordRecoPre	Pearson Correlation	1	.989**
	Sig. (2-tailed)		.000
	N	8	8
RWordRecoPost	Pearson Correlation	.989**	1
	Sig. (2-tailed)	.000	
	N	8	8

** . Correlation is significant at the 0.01 level (2-tailed).

Appendix G: Inter raters' Reliability Result

Correlations for phonological awareness at pre-test

		T1ToPAPre	T2ToPAPre
T1ToPAPre	Pearson Correlation	1	.946**
	Sig. (2-tailed)		.000
	N	8	8
T2ToPAPre	Pearson Correlation	.946**	1
	Sig. (2-tailed)	.000	
	N	8	8

** . Correlation is significant at the 0.01 level (2-tailed).

Correlations for phonological awareness at post-test

		T1ToPAPost	T2ToPAPost
T1ToPAPost	Pearson Correlation	1	.941**
	Sig. (2-tailed)		.000
	N	8	8
T2ToPAPost	Pearson Correlation	.941**	1
	Sig. (2-tailed)	.000	
	N	8	8

** . Correlation is significant at the 0.01 level (2-tailed).

Inter raters' correlations for word recognition at pre-test

		T1WordRecoPre	T2WordRecoPre
		e	e
T1WordRecoPre	Pearson Correlation	1	.990**
	Sig. (2-tailed)		.000
	N	8	8
T2WordRecoPre	Pearson Correlation	.990**	1
	Sig. (2-tailed)	.000	
	N	8	8

** . Correlation is significant at the 0.01 level (2-tailed).

Inter raters' correlations for word recognition at pre-test

		T1WordRecoPost	T2WordRecoPost
		st	st
T1WordRecoPost	Pearson Correlation	1	.983**
	Sig. (2-tailed)		.000
	N	8	8
T2WordRecoPost	Pearson Correlation	.983**	1
	Sig. (2-tailed)	.000	
	N	8	8

** . Correlation is significant at the 0.01 level (2-tailed).

Appendix H: Classroom Observation Checklist

School _____ Date _____

Week _____ Session _____ Rime unit _____

Key words _____

No	Teacher's Activities	Yes	No		Yes	No
Introduction						
1	The teacher introduces the game and models how to play it			Play the game		
2	The teacher segments and blends words from the past session orally			Segment and blend words from last session		
Presentation						
1	The teacher introduces the target rime and the key words, models their pronunciation			Practice the pronunciation of target rime and key words		
2	The teacher introduces the words onset and rime, and vowel, to describe the parts of the words			Identify onset, rime and vowel sounds in a word		
Practice						
1	The teacher models building target words					
2	The teacher guides students to use letter and rime cards and build the other words			Build target words with rime and phoneme cards		
3	The teacher suggests other words that rhyme or alliterate with the pattern					
4	Teacher writes tongue twister containing the key words					
5	The teacher models reading first and drills with the students in choral with different speed			Drill the tongue twister with the teacher		
6	The teacher segments the key words into sounds and talks about blends and digraphs					
Production						
1	The teacher models how to analyze the key/target word by completing the word analysis template					
2	The teacher asks students to select a word and complete the word analysis template from the students' activity booklet and read their word analysis			Complete their word analysis template by analyzing words		
3	The teacher lists as many rhyming words with the target rime on the board			Read their word analysis		
4	The teacher guides students to generate as maximum number of rhyming words and add to the list on their activity booklet			Generate rhyming words and add to their word list		
5	The teacher discusses how the words are similar, both in their shared letter clusters and shared sounds			Identify the sounds and letters in the target words		
Meta cognitive review						
1	The teacher models to students how they could articulate of what they know about the rime; how they transfer this to new words; what they can do now, that they couldn't before; review what they learnt					

Observer's comment

Appendix I: Raw data for the main study

Table 1: Ethiopia Tikdem (Control Pre-Test)

Students' code	Rhyre	Rehpr	Rimes	Rimabl	Pse g	PBl e	IPD	FP D	IPS u	FPs	FWR	IW	NI	TPA	TWR
Cs1	3.00	2.00	1.00	2.00	1.00	2.00	1.00	1.00	.00	.00	6.00	4.00	5.00	13.00	15.00
Cs2	2.00	.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	.00	10.00	8.00	10.00	14.00	28.00
Cs3	3.00	1.00	2.00	2.00	1.00	2.00	2.00	2.00	1.00	1.00	12.00	10.00	10.00	17.00	32.00
Cs4	4.00	2.00	2.00	3.00	2.00	3.00	2.00	1.00	2.00	1.00	10.00	8.00	8.00	22.00	26.00
Cs5	3.00	2.00	2.00	2.00	2.00	3.00	2.00	3.00	1.00	2.00	9.00	10.00	10.00	22.00	29.00
Cs6	3.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00	11.00	2.00	3.00	18.00	16.00
Cs7	2.00	1.00	1.00	2.00	.00	3.00	1.00	2.00	1.00	1.00	4.00	2.00	1.00	14.00	7.00
Cs8	1.00	.00	1.00	2.00	1.00	3.00	2.00	2.00	2.00	2.00	12.00	11.00	13.00	16.00	36.00
Cs9	3.00	1.00	2.00	2.00	2.00	2.00	1.00	2.00	2.00	3.00	16.00	13.00	12.00	20.00	41.00
Cs10	3.00	2.00	2.00	2.00	1.00	3.00	1.00	2.00	1.00	2.00	13.00	10.00	12.00	19.00	35.00
Cs11	3.00	2.00	2.00	3.00	2.00	3.00	3.00	3.00	3.00	2.00	12.00	11.00	12.00	26.00	35.00
Cs12	4.00	2.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00	10.00	8.00	7.00	26.00	25.00
Cs13	2.00	1.00	2.00	2.00	2.00	2.00	2.00	1.00	2.00	2.00	10.00	9.00	11.00	18.00	30.00
Cs14	3.00	2.00	2.00	2.00	2.00	3.00	2.00	2.00	1.00	2.00	8.00	9.00	10.00	21.00	27.00
Cs15	1.00	1.00	1.00	2.00	1.00	2.00	1.00	2.00	2.00	3.00	9.00	9.00	9.00	16.00	27.00
Cs16	5.00	3.00	3.00	3.00	2.00	2.00	2.00	1.00	1.00	1.00	11.00	10.00	10.00	23.00	31.00
Cs17	3.00	3.00	2.00	3.00	3.00	2.00	1.00	.00	1.00	1.00	.00	.00	.00	19.00	.00
Cs18	3.00	2.00	2.00	4.00	2.00	3.00	1.00	2.00	1.00	1.00	14.00	11.00	12.00	21.00	37.00
Cs19	4.00	3.00	2.00	4.00	2.00	4.00	1.00	1.00	1.00	2.00	10.00	10.00	11.00	24.00	31.00
Cs20	3.00	1.00	1.00	1.00	3.00	3.00	.00	1.00	1.00	1.00	.00	.00	.00	15.00	.00
Cs21	2.00	.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	8.00	9.00	10.00	16.00	27.00
Cs22	2.00	1.00	1.00	2.00	2.00	3.00	3.00	2.00	1.00	1.00	12.00	11.00	12.00	18.00	35.00
Cs23	3.00	1.00	1.00	2.00	3.00	3.00	1.00	2.00	1.00	1.00	10.00	8.00	7.00	18.00	25.00
Cs24	3.00	2.00	2.00	3.00	2.00	2.00	1.00	.00	.00	1.00	8.00	7.00	7.00	16.00	22.00
Cs25	2.00	2.00	2.00	3.00	3.00	4.00	2.00	3.00	2.00	2.00	14.00	12.00	11.00	25.00	37.00
Cs26	1.00	1.00	.00	1.00	2.00	2.00	1.00	.00	1.00	1.00	8.00	5.00	4.00	10.00	17.00
Cs27	2.00	1.00	2.00	2.00	2.00	3.00	2.00	3.00	2.00	1.00	13.00	11.00	12.00	20.00	36.00
Cs28	2.00	1.00	1.00	2.00	2.00	2.00	2.00	3.00	3.00	2.00	18.00	13.00	12.00	20.00	43.00
Cs29	3.00	2.00	1.00	3.00	3.00	2.00	1.00	2.00	2.00	2.00	12.00	11.00	12.00	21.00	35.00
Cs30	3.00	2.00	2.00	2.00	1.00	3.00	2.00	2.00	2.00	2.00	16.00	13.00	14.00	21.00	43.00
Cs31	6.00	4.00	3.00	4.00	2.00	2.00	2.00	1.00	1.00	1.00	4.00	2.00	4.00	26.00	10.00
Cs32	3.00	3.00	2.00	3.00	2.00	2.00	1.00	.00	.00	1.00	10.00	9.00	12.00	17.00	31.00
Cs33	2.00	1.00	2.00	3.00	2.00	3.00	2.00	3.00	2.00	2.00	12.00	11.00	12.00	22.00	35.00
Cs34	1.00	1.00	2.00	3.00	1.00	2.00	2.00	3.00	2.00	2.00	10.00	8.00	9.00	19.00	27.00
Cs35	3.00	2.00	2.00	3.00	3.00	4.00	3.00	4.00	2.00	2.00	16.00	12.00	12.00	28.00	40.00
Cs36	3.00	2.00	1.00	2.00	2.00	3.00	2.00	3.00	2.00	2.00	12.00	10.00	14.00	22.00	36.00
Cs37	2.00	1.00	2.00	3.00	2.00	3.00	2.00	2.00	1.00	2.00	14.00	11.00	13.00	20.00	38.00
Cs38	2.00	.00	1.00	2.00	1.00	2.00	2.00	3.00	2.00	2.00	16.00	14.00	12.00	17.00	42.00
Cs39	4.00	2.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	9.00	9.00	10.00	17.00	28.00
Cs40	3.00	2.00	2.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	8.00	10.00	11.00	18.00	29.00
Cs41	3.00	1.00	1.00	2.00	2.00	2.00	1.00	2.00	2.00	2.00	8.00	7.00	7.00	18.00	22.00
Cs42	2.00	1.00	1.00	2.00	2.00	2.00	.00	.00	1.00	.00	.00	.00	.00	11.00	.00
Cs43	3.00	2.00	1.00	2.00	2.00	2.00	1.00	2.00	1.00	1.00	8.00	8.00	12.00	17.00	28.00
Cs44	1.00	1.00	2.00	3.00	1.00	3.00	2.00	2.00	2.00	2.00	13.00	12.00	12.00	19.00	37.00

Table 2: Ethiopia Tikdem (Control Post-Test)

Students' code	Rhyre	Rehpr	Rimes	Rim ebl	Pse g	PBl e	IPD	FP D	IPS u	FPs	FWR	IW	NI	TPA	TWR
Cs1	3.00	1.00	.00	2.00	1.00	3.00	.00	1.00	1.00	1.00	8.00	4.00	5.00	15.00	17.00
Cs2	2.00	1.00	2.00	2.00	2.00	2.00	2.00	.00	1.00	.00	10.00	9.00	11.00	14.00	30.00
Cs3	2.00	1.00	3.00	2.00	1.00	1.00	2.00	3.00	2.00	1.00	11.00	11.00	11.00	16.00	33.00
Cs4	4.00	2.00	2.00	3.00	2.00	2.00	1.00	2.00	2.00	1.00	12.00	10.00	8.00	22.00	30.00
Cs5	2.00	2.00	1.00	2.00	2.00	4.00	3.00	2.00	1.00	1.00	9.00	12.00	12.00	19.00	33.00
Cs6	2.00	1.00	2.00	2.00	2.00	1.00	2.00	1.00	2.00	1.00	10.00	2.00	4.00	16.00	16.00
Cs7	3.00	1.00	.00	2.00	1.00	2.00	1.00	2.00	1.00	1.00	2.00	1.00	2.00	16.00	5.00
Cs8	1.00	1.00	2.00	2.00	1.00	4.00	1.00	3.00	1.00	3.00	13.00	13.00	14.00	17.00	40.00
Cs9	3.00	1.00	2.00	3.00	1.00	3.00	2.00	1.00	1.00	3.00	14.00	13.00	12.00	20.00	39.00
Cs10	3.00	1.00	1.00	2.00	1.00	2.00	2.00	3.00	2.00	2.00	14.00	14.00	12.00	19.00	40.00
Cs11	2.00	2.00	3.00	3.00	2.00	3.00	2.00	3.00	2.00	2.00	12.00	11.00	12.00	23.00	35.00
Cs12	4.00	2.00	4.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	7.00	5.00	5.00	25.00	17.00
Cs13	3.00	1.00	3.00	2.00	2.00	3.00	3.00	2.00	3.00	1.00	12.00	11.00	10.00	20.00	33.00
Cs14	3.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	2.00	2.00	9.00	9.00	9.00	22.00	27.00
Cs15	1.00	1.00	2.00	2.00	1.00	3.00	2.00	1.00	2.00	2.00	9.00	10.00	11.00	17.00	30.00
Cs16	6.00	3.00	2.00	3.00	2.00	3.00	2.00	1.00	2.00	1.00	13.00	11.00	11.00	23.00	35.00
Cs17	3.00	3.00	1.00	3.00	3.00	1.00	1.00	1.00	1.00	1.00	.00	.00	.00	19.00	.00
Cs18	2.00	3.00	1.00	4.00	3.00	2.00	.00	1.00	1.00	2.00	15.00	12.00	13.00	19.00	40.00
Cs19	4.00	2.00	2.00	4.00	2.00	3.00	2.00	1.00	2.00	2.00	7.00	11.00	12.00	25.00	30.00
Cs20	3.00	1.00	2.00	1.00	3.00	4.00	1.00	2.00	.00	1.00	.00	.00	.00	15.00	.00
Cs21	2.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	11.00	12.00	11.00	20.00	34.00
Cs22	2.00	1.00	2.00	2.00	2.00	4.00	4.00	2.00	1.00	2.00	12.00	11.00	12.00	20.00	35.00
Cs23	2.00	1.00	1.00	2.00	4.00	3.00	1.00	1.00	2.00	1.00	10.00	7.00	8.00	19.00	25.00
Cs24	3.00	2.00	2.00	2.00	2.00	1.00	.00	.00	1.00	1.00	10.00	7.00	7.00	16.00	24.00
Cs25	3.00	2.00	1.00	3.00	2.00	3.00	2.00	2.00	1.00	2.00	11.00	10.00	10.00	23.00	31.00
Cs26	.00	.00	1.00	1.00	2.00	2.00	2.00	1.00	.00	1.00	5.00	6.00	4.00	9.00	15.00
Cs27	2.00	1.00	1.00	2.00	2.00	3.00	1.00	3.00	3.00	1.00	14.00	10.00	13.00	18.00	37.00
Cs28	2.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	4.00	2.00	21.00	11.00	12.00	19.00	44.00
Cs29	4.00	2.00	2.00	3.00	3.00	1.00	2.00	2.00	1.00	1.00	12.00	13.00	11.00	20.00	36.00
Cs30	3.00	2.00	1.00	2.00	1.00	3.00	1.00	3.00	2.00	2.00	14.00	12.00	12.00	20.00	38.00
Cs31	5.00	4.00	3.00	4.00	2.00	2.00	2.00	1.00	1.00	1.00	4.00	2.00	6.00	25.00	12.00
Cs32	4.00	3.00	3.00	3.00	2.00	3.00	2.00	.00	1.00	1.00	11.00	10.00	11.00	20.00	32.00
Cs33	2.00	2.00	3.00	3.00	2.00	4.00	2.00	2.00	1.00	2.00	13.00	14.00	13.00	24.00	40.00
Cs34	1.00	1.00	2.00	4.00	1.00	2.00	2.00	3.00	1.00	2.00	10.00	10.00	12.00	18.00	32.00
Cs35	3.00	2.00	1.00	3.00	3.00	3.00	2.00	5.00	2.00	2.00	20.00	12.00	12.00	25.00	44.00
Cs36	3.00	1.00	2.00	2.00	2.00	4.00	3.00	3.00	2.00	2.00	12.00	9.00	15.00	22.00	36.00
Cs37	2.00	2.00	2.00	3.00	2.00	3.00	2.00	2.00	1.00	2.00	12.00	9.00	12.00	21.00	33.00
Cs38	2.00	1.00	2.00	2.00	1.00	3.00	3.00	3.00	1.00	2.00	12.00	13.00	12.00	19.00	37.00
Cs39	4.00	2.00	1.00	2.00	2.00	2.00	1.00	2.00	1.00	1.00	9.00	8.00	12.00	18.00	29.00
Cs40	3.00	2.00	3.00	2.00	2.00	1.00	1.00	2.00	1.00	1.00	9.00	10.00	10.00	17.00	29.00
Cs41	3.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00	2.00	2.00	5.00	8.00	7.00	17.00	20.00
Cs42	2.00	1.00	1.00	2.00	3.00	2.00	1.00	1.00	1.00	1.00	.00	.00	.00	15.00	.00
Cs43	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	9.00	8.00	12.00	17.00	29.00
Cs44	1.00	2.00	1.00	3.00	1.00	4.00	2.00	1.00	2.00	2.00	11.00	11.00	13.00	20.00	35.00

Table 3: Haiq (Experimental Pre-Test)

Students' code	Rhyre	Rehpr	Rimes	Rimabl	Pse g	PBl e	IPD	FP D	IPS u	FPs	FWR	IW	NI	TPA	TWR
Exs1	2.00	1.00	2.00	3.00	3.00	3.00	2.00	3.00	2.00	2.00	10.00	9.00	14.00	23.00	33.00
Exs2	2.00	1.00	2.00	3.00	1.00	2.00	2.00	3.00	2.00	2.00	11.00	11.00	12.00	20.00	34.00
Exs3	4.00	3.00	3.00	3.00	3.00	3.00	1.00	1.00	1.00	1.00	12.00	10.00	9.00	23.00	31.00
Exs4	3.00	2.00	3.00	2.00	2.00	3.00	2.00	1.00	1.00	1.00	8.00	9.00	9.00	20.00	26.00
Exs5	3.00	2.00	2.00	3.00	2.00	3.00	2.00	2.00	1.00	1.00	12.00	11.00	10.00	21.00	33.00
Exs6	3.00	2.00	2.00	2.00	2.00	3.00	2.00	2.00	1.00	1.00	12.00	11.00	12.00	20.00	35.00
Exs7	6.00	4.00	3.00	3.00	2.00	3.00	2.00	1.00	1.00	1.00	10.00	8.00	10.00	25.00	28.00
Exs8	2.00	2.00	2.00	3.00	1.00	2.00	1.00	1.00	1.00	1.00	8.00	7.00	8.00	16.00	23.00
Exs9	2.00	1.00	2.00	3.00	1.00	3.00	1.00	.00	1.00	.00	6.00	5.00	6.00	14.00	17.00
Exs10	3.00	2.00	1.00	2.00	2.00	2.00	1.00	2.00	1.00	1.00	8.00	5.00	6.00	17.00	19.00
Exs11	1.00	1.00	1.00	1.00	1.00	2.00	.00	1.00	.00	.00	2.00	.00	3.00	8.00	5.00
Exs12	4.00	3.00	3.00	3.00	2.00	4.00	2.00	3.00	2.00	2.00	11.00	10.00	9.00	28.00	30.00
Exs13	3.00	2.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00	14.00	12.00	12.00	25.00	38.00
Exs14	3.00	2.00	2.00	3.00	2.00	2.00	1.00	2.00	2.00	1.00	12.00	10.00	12.00	20.00	34.00
Exs15	2.00	2.00	2.00	3.00	2.00	2.00	1.00	2.00	1.00	1.00	15.00	13.00	12.00	18.00	40.00
Exs16	1.00	.00	1.00	2.00	1.00	2.00	.00	1.00	.00	1.00	9.00	8.00	10.00	9.00	27.00
Exs17	5.00	3.00	2.00	3.00	3.00	4.00	1.00	1.00	1.00	1.00	14.00	12.00	11.00	24.00	37.00
Exs18	2.00	1.00	2.00	3.00	2.00	3.00	1.00	2.00	2.00	2.00	11.00	10.00	11.00	20.00	32.00
Exs19	3.00	2.00	3.00	3.00	2.00	3.00	2.00	3.00	2.00	3.00	14.00	12.00	12.00	26.00	38.00
Exs20	3.00	2.00	2.00	2.00	3.00	3.00	1.00	2.00	1.00	1.00	6.00	4.00	6.00	20.00	16.00
Exs21	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	1.00	8.00	4.00	4.00	20.00	16.00
Exs22	3.00	2.00	2.00	3.00	1.00	2.00	2.00	2.00	2.00	2.00	12.00	11.00	11.00	21.00	34.00
Exs23	2.00	1.00	1.00	2.00	2.00	3.00	1.00	2.00	1.00	1.00	10.00	12.00	10.00	16.00	32.00
Exs24	2.00	2.00	1.00	1.00	2.00	3.00	1.00	1.00	1.00	1.00	11.00	9.00	7.00	15.00	27.00
Exs25	3.00	2.00	2.00	3.00	2.00	3.00	1.00	2.00	1.00	2.00	12.00	9.00	10.00	21.00	31.00
Exs26	3.00	2.00	1.00	2.00	1.00	2.00	2.00	2.00	2.00	2.00	9.00	5.00	5.00	19.00	19.00
Exs27	1.00	.00	1.00	2.00	1.00	2.00	2.00	3.00	2.00	1.00	10.00	9.00	10.00	15.00	29.00
Exs28	4.00	3.00	2.00	2.00	3.00	4.00	3.00	3.00	2.00	3.00	11.00	10.00	11.00	29.00	32.00
Exs29	2.00	1.00	1.00	2.00	2.00	3.00	2.00	2.00	3.00	2.00	12.00	11.00	10.00	20.00	33.00
Exs30	2.00	1.00	1.00	1.00	1.00	2.00	1.00	2.00	1.00	1.00	.00	.00	.00	13.00	.00
Exs31	3.00	2.00	1.00	2.00	1.00	3.00	1.00	1.00	1.00	1.00	6.00	4.00	2.00	16.00	12.00
Exs32	1.00	1.00	1.00	2.00	2.00	3.00	1.00	2.00	1.00	2.00	9.00	8.00	10.00	16.00	27.00
Exs33	4.00	3.00	2.00	3.00	2.00	4.00	2.00	2.00	2.00	2.00	12.00	9.00	10.00	26.00	31.00
Exs34	3.00	2.00	2.00	3.00	1.00	2.00	2.00	3.00	2.00	2.00	11.00	10.00	10.00	22.00	31.00
Exs35	2.00	1.00	1.00	2.00	1.00	2.00	1.00	1.00	.00	1.00	9.00	8.00	7.00	12.00	24.00
Exs36	3.00	1.00	2.00	3.00	2.00	3.00	3.00	3.00	1.00	1.00	15.00	12.00	11.00	22.00	38.00
Exs37	3.00	2.00	2.00	3.00	3.00	3.00	3.00	4.00	3.00	2.00	13.00	11.00	11.00	28.00	35.00
Exs38	3.00	2.00	2.00	3.00	2.00	3.00	2.00	1.00	2.00	2.00	12.00	12.00	11.00	22.00	35.00
Exs39	1.00	.00	1.00	2.00	.00	1.00	2.00	1.00	1.00	2.00	4.00	2.00	2.00	11.00	8.00
Exs40	2.00	1.00	1.00	2.00	1.00	2.00	1.00	1.00	1.00	1.00	2.00	.00	2.00	13.00	4.00
Exs41	3.00	2.00	1.00	3.00	2.00	3.00	2.00	2.00	2.00	2.00	14.00	12.00	11.00	22.00	37.00
Exs42	3.00	1.00	2.00	2.00	2.00	3.00	1.00	1.00	2.00	1.00	11.00	10.00	11.00	18.00	32.00
Exs43	2.00	1.00	2.00	3.00	2.00	3.00	1.00	1.00	2.00	1.00	6.00	4.00	4.00	18.00	14.00
Exs44	4.00	2.00	2.00	3.00	3.00	3.00	2.00	2.00	1.00	1.00	12.00	10.00	11.00	23.00	33.00
Exs45	3.00	2.00	3.00	4.00	2.00	3.00	2.00	1.00	1.00	1.00	11.00	8.00	9.00	22.00	28.00
Exs46	1.00	.00	3.00	4.00	.00	1.00	1.00	1.00	1.00	2.00	7.00	7.00	8.00	14.00	22.00
Exs47	3.00	2.00	3.00	3.00	2.00	2.00	1.00	2.00	2.00	2.00	11.00	9.00	9.00	22.00	29.00
Exs48	3.00	2.00	2.00	3.00	2.00	3.00	2.00	2.00	2.00	1.00	12.00	10.00	11.00	22.00	33.00

Table 4: Haiq (Experimental Post-Test)

Students' code	Rhyre	Rehpr	Rimes	Rimabl	Pse g	PBl e	IPD	FP D	IPS u	FPs	FWR	IW	NI	TPA	TWR
Exs1	3.00	3.00	3.00	6.00	2.00	3.00	3.00	3.00	2.00	3.00	16.00	13.00	20.00	31.00	49.00
Exs2	3.00	2.00	4.00	5.00	3.00	4.00	3.00	3.00	3.00	3.00	22.00	18.00	21.00	33.00	61.00
Exs3	6.00	5.00	4.00	5.00	3.00	4.00	1.00	3.00	2.00	1.00	18.00	19.00	16.00	34.00	53.00
Exs4	5.00	3.00	4.00	5.00	4.00	4.00	2.00	2.00	2.00	1.00	19.00	15.00	20.00	32.00	54.00
Exs5	4.00	3.00	4.00	4.00	2.00	3.00	2.00	2.00	3.00	3.00	24.00	20.00	18.00	30.00	62.00
Exs6	5.00	4.00	3.00	4.00	3.00	3.00	4.00	3.00	1.00	3.00	22.00	18.00	21.00	33.00	61.00
Exs7	7.00	4.00	4.00	3.00	2.00	5.00	3.00	1.00	1.00	1.00	21.00	18.00	22.00	31.00	61.00
Exs8	2.00	3.00	3.00	4.00	2.00	4.00	1.00	2.00	1.00	2.00	16.00	14.00	18.00	24.00	48.00
Exs9	3.00	1.00	3.00	4.00	1.00	3.00	1.00	1.00	3.00	2.00	18.00	13.00	20.00	22.00	51.00
Exs10	5.00	2.00	2.00	3.00	3.00	3.00	2.00	3.00	2.00	2.00	16.00	10.00	24.00	27.00	50.00
Exs11	1.00	1.00	2.00	2.00	3.00	2.00	1.00	3.00	2.00	1.00	18.00	16.00	21.00	18.00	55.00
Exs12	5.00	4.00	5.00	5.00	3.00	6.00	2.00	5.00	3.00	3.00	22.00	19.00	19.00	41.00	60.00
Exs13	4.00	3.00	5.00	5.00	5.00	4.00	3.00	3.00	3.00	4.00	24.00	20.00	22.00	39.00	66.00
Exs14	5.00	3.00	3.00	4.00	2.00	2.00	1.00	4.00	3.00	1.00	28.00	25.00	22.00	28.00	75.00
Exs15	3.00	3.00	2.00	4.00	3.00	3.00	3.00	2.00	1.00	1.00	31.00	30.00	20.00	25.00	81.00
Exs16	1.00	1.00	1.00	4.00	1.00	2.00	1.00	1.00	1.00	3.00	15.00	12.00	21.00	16.00	48.00
Exs17	6.00	4.00	2.00	3.00	4.00	4.00	2.00	2.00	3.00	2.00	24.00	22.00	24.00	32.00	70.00
Exs18	4.00	2.00	3.00	3.00	3.00	3.00	1.00	3.00	3.00	3.00	18.00	16.00	23.00	28.00	57.00
Exs19	4.00	3.00	4.00	4.00	2.00	4.00	4.00	3.00	2.00	5.00	26.00	24.00	32.00	35.00	82.00
Exs20	4.00	3.00	3.00	1.00	5.00	3.00	2.00	2.00	1.00	2.00	13.00	10.00	16.00	26.00	39.00
Exs21	2.00	3.00	4.00	5.00	2.00	4.00	3.00	4.00	4.00	2.00	12.00	12.00	18.00	33.00	42.00
Exs22	5.00	2.00	2.00	5.00	3.00	2.00	2.00	3.00	3.00	3.00	20.00	20.00	22.00	30.00	62.00
Exs23	2.00	1.00	1.00	4.00	1.00	3.00	3.00	2.00	3.00	2.00	21.00	18.00	24.00	22.00	63.00
Exs24	3.00	2.00	2.00	3.00	3.00	4.00	2.00	2.00	2.00	2.00	20.00	18.00	21.00	25.00	59.00
Exs25	4.00	2.00	2.00	4.00	2.00	3.00	1.00	3.00	1.00	4.00	22.00	21.00	24.00	26.00	67.00
Exs26	5.00	3.00	2.00	3.00	1.00	3.00	2.00	3.00	3.00	2.00	18.00	20.00	22.00	27.00	60.00
Exs27	1.00	1.00	1.00	3.00	2.00	3.00	4.00	4.00	2.00	3.00	22.00	18.00	22.00	24.00	62.00
Exs28	5.00	4.00	4.00	2.00	5.00	4.00	5.00	4.00	3.00	4.00	16.00	17.00	30.00	40.00	63.00
Exs29	3.00	2.00	2.00	3.00	2.00	4.00	3.00	4.00	3.00	3.00	23.00	20.00	36.00	29.00	79.00
Exs30	3.00	2.00	2.00	4.00	3.00	2.00	2.00	3.00	2.00	1.00	15.00	13.00	18.00	24.00	46.00
Exs31	3.00	2.00	1.00	4.00	2.00	3.00	3.00	1.00	1.00	3.00	18.00	16.00	16.00	23.00	50.00
Exs32	1.00	2.00	1.00	3.00	2.00	5.00	3.00	2.00	2.00	3.00	21.00	18.00	23.00	24.00	62.00
Exs33	5.00	3.00	2.00	4.00	3.00	6.00	4.00	2.00	3.00	4.00	22.00	23.00	22.00	36.00	67.00
Exs34	4.00	2.00	3.00	5.00	2.00	2.00	3.00	4.00	2.00	3.00	18.00	13.00	21.00	30.00	52.00
Exs35	3.00	1.00	2.00	4.00	3.00	3.00	1.00	1.00	2.00	1.00	23.00	18.00	18.00	21.00	59.00
Exs36	4.00	1.00	4.00	5.00	2.00	3.00	3.00	3.00	2.00	3.00	30.00	28.00	26.00	30.00	84.00
Exs37	4.00	3.00	5.00	5.00	5.00	4.00	5.00	6.00	5.00	3.00	33.00	30.00	28.00	45.00	91.00
Exs38	4.00	3.00	3.00	6.00	4.00	3.00	4.00	3.00	3.00	4.00	22.00	20.00	31.00	37.00	73.00
Exs39	1.00	1.00	2.00	3.00	1.00	3.00	2.00	3.00	2.00	3.00	14.00	12.00	12.00	21.00	38.00
Exs40	2.00	2.00	1.00	2.00	2.00	2.00	1.00	1.00	3.00	2.00	19.00	11.00	17.00	18.00	47.00
Exs41	3.00	2.00	3.00	3.00	2.00	3.00	4.00	3.00	2.00	2.00	31.00	28.00	30.00	27.00	89.00
Exs42	4.00	2.00	2.00	3.00	4.00	4.00	3.00	3.00	3.00	2.00	20.00	19.00	29.00	30.00	68.00
Exs43	3.00	2.00	2.00	5.00	3.00	3.00	1.00	1.00	4.00	1.00	16.00	15.00	19.00	25.00	50.00
Exs44	6.00	2.00	4.00	4.00	4.00	3.00	2.00	2.00	3.00	3.00	21.00	20.00	28.00	33.00	69.00
Exs45	5.00	3.00	4.00	6.00	4.00	4.00	3.00	2.00	3.00	2.00	23.00	21.00	25.00	36.00	69.00
Exs46	2.00	1.00	3.00	5.00	2.00	3.00	2.00	3.00	2.00	2.00	18.00	16.00	26.00	25.00	60.00
Exs47	4.00	3.00	4.00	4.00	2.00	2.00	3.00	4.00	3.00	4.00	20.00	20.00	22.00	33.00	62.00
Exs48	4.00	3.00	4.00	4.00	3.00	5.00	2.00	4.00	3.00	3.00	21.00	19.00	24.00	35.00	64.00