



higher education
& training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

Sesotho and IsiZulu Reading Project

Study guide 3:

Decoding in reading

Primary Teacher Education project
Department of Higher Education and Training



Study guide 3: Decoding in reading

© 2022 Sesotho and IsiZulu Reading Project

With acknowledgments to the Sesotho and IsiZulu Reading Project based based at the Centre for African Language Teaching at the University of Johannesburg and writers Lionel Posthumus and Nonhle Mthembu-Ngema for providing the initial content for this Study Guide and to John Aitchison for its adaptation.

Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License (CC BY-NC-SA 4.0)

You are free to share (that is, copy and redistribute the material in any medium or format) and adapt (remix, transform, and build upon the material) as long as you follow these licence terms:



Attribution (by)

You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.



Non Commercial (nc)

You can copy, distribute, display, perform, adapt and use this material for any purpose other than commercially (unless you get permission first). Non Commercial means not primarily intended for or directed towards commercial advantage or monetary compensation.



Share Alike (sa)

You may remix, transform, or build upon the material, but you must distribute your contributions under the same licence as the original.

No additional restrictions — You may not apply legal terms or technological measures that legally restrict others from doing anything the licence permits.

Notices

You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation.

For the full text of this Creative Commons licence go to:

<https://creativecommons.org/licenses/by-nc-sa/4.0/legalcode>

Department of Higher Education and Training

Private Bag X174, Pretoria, 0001

123 Francis Baard Street, Pretoria, 0001

Tel.: 012 312 5911 / 0800 87 2222 / 086 999 0123

Fax.: 012 323 5618

Web: www.dhet.gov.za

Contents

Introduction

Decoding in reading: phonological awareness, the alphabetic principle, phonics, morphological awareness and oral reading fluency	1
What does the literacy teacher need to know about decoding in reading?	1
What this study guide contains	1
Structure of this study guide	2
What knowledge of linguistics do I need?	3
The outcomes of using this study guide	3
What about teaching decoding in English?	3
What literacy teacher standards are covered?	4
1. What is decoding in reading?	7
Learning to be able to decode text	7
We have a problem	8
Learning to Read and Reading to Learn	9
Becoming proficient at listening and speaking and becoming proficient at reading and writing	9
The key components of reading	10
The terminology of reading teaching	11
Unit 1: Self test questions	12
2. What is phonological awareness and why is it important for reading?	13
Teaching phonological awareness	14
Teaching prosody	16
The distinction between Phonological Awareness and Phonics	18
The foundational importance of phonological awareness and phonics	19
Tests for phonological awareness	19
Unit 2: Self test questions	20
3. Phonological awareness	21
Distinguishing between vowels and consonants	21
The syllable as a unit of language	22
Metre, onset and rime	23
Teaching phonological operations involving syllables	24
Identifying and Matching syllables	25
Segmenting of syllables	28
Blending of syllables	29
Deletion of a syllable	30
Substitution of a syllable	30
Syllable-based tasks versus phoneme-based tasks	31
Unit 3: Self test questions	32

4. Phonological awareness – phonemes	33
Alliteration and rhyme	34
Sound sequences that are single phonemes	35
Teaching phonological operations involving phonemes	35
Identifying and Matching phonemes	36
Blending of phonemes	37
Segmentation of phonemes	38
Deletion of a phoneme	38
Substitution of a phoneme	39
Epenthesis of a phoneme	40
Unit 4: Self test questions	40
5. The alphabet, orthography, and language structures	41
Is learning to read more difficult in some languages than others?	41
The orthographies used in Sesotho and isiZulu	41
Factors influencing the level of difficulty in learning to read	42
Transparent and Opaque orthographies	42
Word length	43
Complexity of the syllable structure of the language	43
Complexity of the morphological structure of words	44
The level of development and the conventionalisation of the vocabulary	45
The convention of not marking suprasegmental qualities in the orthography	45
Towards decoding alphabetic texts	47
Unit 5: Self test questions	47
6. Alphabetic knowledge	49
Knowledge of letter-names and letter-sounds	49
The importance of letter-name knowledge	50
Letter-names in the African languages	51
Letter-names and letter-sounds	52
Letter-sound knowledge	53
The relationship between speech sounds and the letters that represent them	55
Teaching letter-sound knowledge	57
Assessing alphabetic knowledge	57
Towards decoding	58
Unit 6: Self test questions	58
7. The stages of reading	59
Stages of Reading	59
Frith's Three Stages of Reading	59
Frith's First Stage of Reading: The Pictorial Stage	59
Frith's Second Stage of Reading: The Phonological Reading Pathway	60
Frith's Third Stage of Reading: The Orthographic Pathway	61
Some key indicators from Frith's three stage model	61
The Simple View of Reading	62
Assessing decoding and language comprehension competencies	64
Unit 7: Self test questions	66

8. Phonics – syllables and phonemes	67
What is phonics?	67
From syllables to phonemes	68
The order for teaching the sounds in phonics	68
Phonics teaching related to the syllables	68
Syllable Identification and Matching	69
Syllable Segmentation	72
Syllable Blending	73
Syllable Deletion	74
Syllable Substitution	75
Phonics teaching related to phonemes	77
Complications in the relationship between phonemes and letters	77
Phoneme Identification and Matching	79
Blending Phonemes	81
Deletion of Phonemes	82
Substitution of Phonemes	83
The use of nonsense words	85
Chanting is not phonics	85
Unit 8: Self test questions	86
9. Morphological awareness and reading	87
What is morphology and what are morphemes?	87
Subject and object morphemes in African languages	88
The African Languages as agglutinating languages	88
Morphology and its importance for reading	89
Morphology and the word categories	92
Examples of the application of morphological awareness	93
Unit 9: Self test questions	96
10. Developing reading fluency	97
What is Oral Reading Fluency?	97
Why is Oral Reading Fluency important?	97
Developing oral reading fluency	98
Levels of fluency	99
Developing silent reading fluency	99
The limitations of oral reading fluency	100
Studies on the lack of reading fluency	100
Assessing successful reading	101
Assessing language comprehension	102
Assessing Oral Reading Fluency	102
Transferring reading skills from one language to another	103
Unit 10: Self test questions	104

References	105
Appendices	115
Appendix A: IsiZulu phonemes	115
Appendix B: IsiZulu syllables	118
Appendix C: Sesotho phonemes	121
Self test answers	122

Decoding in reading: phonological awareness, the alphabetic principle, phonics, morphological awareness and oral reading fluency

What does the literacy teacher need to know about decoding in reading?

This study guide is about decoding – about developing the ability to transform written text into the words of spoken language in order to gain access to the meaning of a text. Unless a child is able to convert the written text into spoken words, she or he cannot decode the message behind the words. Learning to do this is not easy. Children are not born with an innate ability to read and write, they have to be taught to do that.

To decode a text means applying a knowledge of letter-sound relationships, including knowledge of letter patterns, to correctly sound-out and pronounce written words. In other words it is deciphering the alphabetic code into spoken language. To encode is the reverse process. It is converting spoken words into written text.

This guide provides an introduction to the key elements of decoding in reading, namely phonological awareness, alphabetic knowledge, phonics, morphological awareness and oral reading fluency.

What this study guide contains

There are ten units:

1. What is decoding in reading?
2. What is phonological awareness and why is it important for reading?
3. Phonological awareness – syllables
4. Phonological awareness – phonemes
5. The alphabet, orthography, and language structures
6. Alphabetic knowledge
7. The stages of reading
8. Phonics – syllables and phonemes
9. Morphological awareness and reading
10. Developing reading fluency

There are three appendices:

- A. IsiZulu phonemes
- B. TIsiZulu syllables
- C. Sesotho phonemes

Structure of the study guide

This study guide comprises seven sections:

- ◇ The first two units (1 to 2) supply an overview and a discussion on the various elements involved in **decoding**: phonological awareness, alphabetic knowledge, phonics, morphological awareness and oral reading fluency. Particular reference is made to Sesotho and isiZulu both here and throughout this study guide.
- ◇ Units 3 to 4 discuss **phonological awareness** in some detail.
- ◇ Units 5 and 6 focus on the **alphabet** – on the particular orthography in which a language is transformed into text and on the alphabetic principle that the letters of the alphabet correspond to particular sounds in the language – and on decoding making use of letter-name knowledge and letter-sound knowledge.
- ◇ Before going on to focus on phonics, Unit 7 provides a brief survey of the **stages of reading development**
- ◇ Unit 8 focuses on **phonics** with specific reference to Sesotho and isiZulu. Phonics concerns the method used to teach the beginner reader to decode written text into spoken form and in so-doing decipher the message contained in the written text. Phonological awareness and phonics are both important for learning to read. Knowledge of syllables and phonemes and the ability to apply the principles of phonological awareness is critical for learning to read. Although phonological awareness and phonics are closely related, it is important to note that phonological awareness applies to the spoken word while phonics applies to the written word.
- ◇ Unit 9 focuses on **morphological awareness**. Morphological awareness also has an impact on learning to read and this is particularly true of agglutinating languages. Since African languages are agglutinating languages, it is imperative to pay attention to the role of morphological awareness in the process of learning to read.
- ◇ The last Unit (10) focuses on **oral reading fluency (ORF)**. In order to comprehend what they read learners must read with accuracy and at a reasonable pace. There is a high correlation between children's oral reading fluency and their reading comprehension. It is therefore very important to attend to the development of reading fluency.

What knowledge of linguistics do I need?

Knowing how to teach reading does require some elementary understanding of linguistics, that is, the scientific study of language. (Fillmore and Snow, 2000). Where necessary, explanations and definitions of linguistics will be given in this text, but more detailed explanations and a basic grounding in linguistics are given in the companion study guide, *Language and literacy*.

The content of this study guide on *Decoding in reading* is influenced by the assumption that you already have some basic knowledge of language and linguistics or have already studied the companion study guide, Study Guide 2, in this series. If this is not the case, it is strongly recommended that you keep that study guide on hand to consult on the meaning of linguistic terms and basic linguistic knowledge. In the units of this study guide on *Decoding in reading* cross references will be made to the pages in the *Language and Literacy* study guide and in some cases to other study guides.

The outcomes of using this study guide

After a systematic study of the content of this unit the student teacher should be able to:

- describe the elements involved in the process of decoding written text
- describe phonological awareness, alphabetical knowledge, phonics, morphological awareness and (oral) reading fluency and explain their relevance for learning to read
- select, develop and apply suitable methods and techniques to teach the above-mentioned components of decoding
- integrate the components of reading to facilitate the process of learning to decode
- assess the learner's understanding and application of the components of decoding, namely phonological awareness, alphabetical knowledge, phonics and morphological awareness
- understand the importance of Oral Reading Fluency and be able to develop and assess it in the classroom.

What about teaching decoding in English?

This study guide focuses on decoding in the African languages and more specifically on isiZulu and Sesotho.

There are innumerable resources on the teaching of reading in English, one of the most comprehensive of which is the official United Kingdom Department of Education and Skills *Letters and Sounds: Principles and Practice of High Quality Phonics* (2007). See also Parker (2019a.)

Other resources on literacy teaching can be found on the Primary Teacher Education project (PrimTEd) website.



Sesotho and IsiZulu Reading Project

Study guide 2:

Language and
Literacy

Primary Teacher Education project
Department of Higher Education and Training

What literacy teacher standards are covered?

This study guide covers six of the standards (or portions of them). These knowledge and practice standards relate to the knowledge of literacy teaching and decoding that graduate teachers need to have to teach learners to read and write.

8. Demonstrate knowledge of theoretical and research-based components of reading and writing teaching through the phases and grades (including its cognitive, linguistic and socio-cultural foundations and the processes and concepts involved).

- 8.1 What learners need to be able to read and write, and why, within and across the relevant grades and subjects, can be described.
- 8.2 A broad understanding of the concepts, curriculum, and pedagogy of literacy teaching can be articulated.
- 8.3 A coherent evidence-based understanding of the teaching of reading and writing that guides their approach and practice can be articulated.
- 8.4 The broad continuum of reading and writing development can be described.
- 8.5 A variety of strategies to teach, assess and support learners' development across the continuum can be identified.

9. Shows understanding of the need to teach all the components of reading and writing in a purposeful, systematic, structured, and integrated way.

- 9.1 An outline of a systematic, structured and integrated approach to learning to read and write teaching programme can be described.
- 9.2 Awareness of the need to make explicit to learners the purpose and functions of what is being taught is exhibited.
- 9.3 Awareness that a purposeful, systematic and structured approach also incorporates pleasure, play and fun in learning is shown.
- 9.4 How literacy activities at the word, sentence and whole text levels contribute to meaningful reading and writing can be described.
- 9.5 Ways of creating a classroom environment that emphasizes reading and writing as meaning making processes are outlined.

10. Demonstrates phonological awareness including phonemic awareness

- 10.1 A basic awareness of the sounds of languages is displayed.
- 10.2 Definitions, explanations and demonstrations of phonological awareness (syllabification, onset and rime (onset and rime are important in English but not in agglutinating languages), and phonemic awareness) are given.
- 10.3 The use of activities such as phoneme isolation, identification, categorization, addition, deletion, substitution, and segmentation is demonstrated.
- 10.4 An understanding of the developmental continuum of phonological awareness and an ability to use this knowledge in reading instruction appropriate to each grade and learner is demonstrated.



Knowledge and Practice Standards for primary teacher education graduates: language and literacy

Prepared by the PrintEd Literacy Working Group



tidcip

11. Demonstrates basic knowledge of phonics, e.g. knowing letter shapes, knowing that written words are built up from letters and letter groups with sound values

- 11.1 Phonics is defined.
- 11.2 The use of phonics and decoding strategies appropriate to the particular language and grade are identified.
- 11.3 Awareness of the similarities and differences in phonics strategies in analytic/ isolating and agglutinating languages is shown.
- 11.4 The importance of syllables and word morphology in the African languages is recognised.
- 11.5 Explanations of the principles underpinning particular phonics approaches are given.
- 11.6 Knowledge of resources available to support particular approaches/programmes is demonstrated.

14. Demonstrates knowledge of how to develop fluency in reading through a flexible use of strategies.

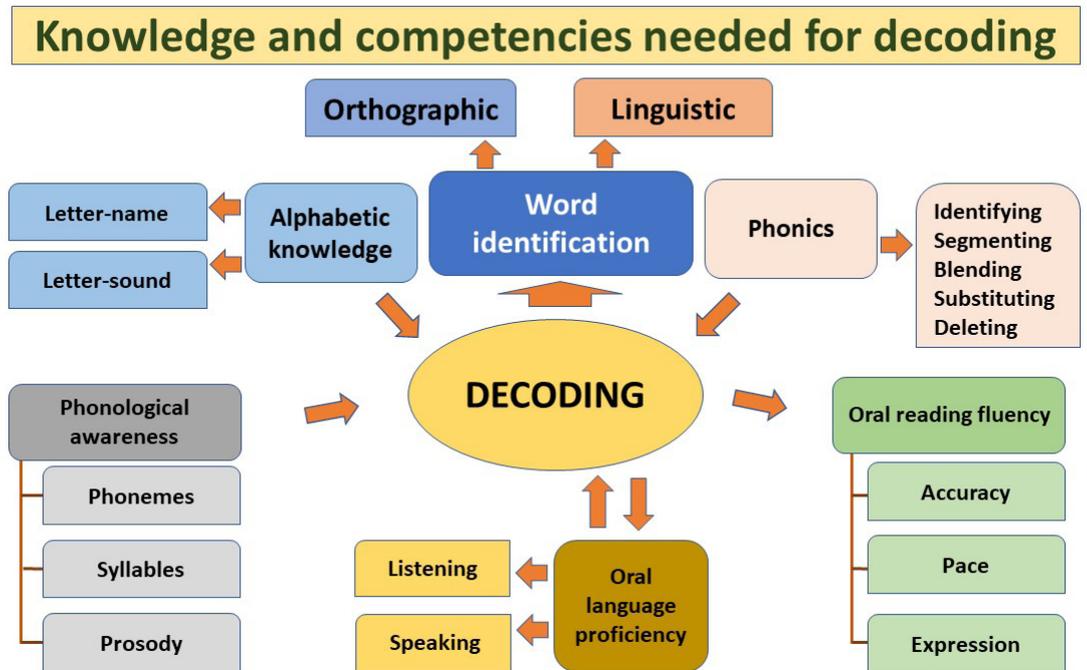
- 14.1 An understanding of the role of fluency in relationship to vocabulary, syntax, semantics, pragmatics, comprehension and text difficulty can be demonstrated.
- 14.2 Taking into account the relationship of fluency to the other components of literacy and the variety of texts used, flexible fluency benchmarks for the particular grade and language are stated.
- 14.3 Strategies which will help learners to develop fluency in reading in a variety of genres are described.
- 14.4 Appropriate texts are chosen so that learners can independently comprehend them as tasks become more complex and the text demands increase.

There are also parts of this Practice standard:

3. Implement multimodal forms of instruction and evaluate instructional practice in each of the key components of reading and writing

- 3.1 Implement in a structured, integrated and phase appropriate way, and evaluate instructional practice in the following key areas:
 - ...
 - phonological and phonemic awareness
 - phonics (sound-letter correspondence)
 - word recognition
 - fluency
 - ...
- 3.2 Appropriate and varied instructional approaches are used, including those that develop decoding, ...
- 3.3 Lessons are logically sequenced and conducted at an appropriate pace to keep learners engaged and focussed on tasks.
- 3.4 Learner strengths and weaknesses are diagnosed in order to develop and adapt teaching strategies.

- 3.5 Scaffolding to support the process of learning to read and write (prompting, demonstrating, modelling, praising, describing strategies, offering feedback, or using particular instructional frameworks, etc.) is used.
- 3.6 Focused tasks matched to the abilities of learners are provided.
- 3.7 The systematic and continuous monitoring and assessment of learners' progress is undertaken.



1. What is decoding in reading?

In this study guide the focus is on decoding. It is about developing the ability to transform written text into spoken words in order to gain access to the meaning of a text. Unless children are able to convert the written text into spoken language they cannot decode the message behind the words.

Children are not born with an innate ability to read and write, nor does it naturally emerge, they have to be taught to do that.

Preliminary reading

Language and literacy

Unit 2. The four basic language and literacy skills (pp. 7-8)

Learning to be able to decode text

As with most practices, you have to do some other things first, before you can decode text in reading.

Listen to the sounds in words and develop phonological awareness

First, you have to be able to distinguish the individual sounds (**phonemes**) in spoken words. That is because the alphabet we use represents those individual sounds with letters (**graphemes**), not the whole word.



Thus whilst this logo may represent the whole word “man”, the representation of the word in alphabetic text uses three alphabetic symbols, “m a n”, each letter standing for an individual sound.

So first the child has to be able to listen to the spoken word and be able to distinguish between the sounds constituting the word. The child develops this awareness that spoken words are made up of individual sounds – what is called **phonological awareness**.

Learn about the alphabetic principle

Next the child has to recognize that the letters of the alphabet are visual symbols representing these sounds. This requires knowing the names of the letters – **letter-name knowledge** – and the sounds associated with those letters – **letter-sound knowledge**.

The letter-sound knowledge is complicated by the fact that in most languages the speech sounds usually number more than the 26 letters of the (Roman) alphabet we use. This is a particular problem in English decoding.

Once the principles of phonological awareness, the alphabetic principle and an understanding of the relationship between letter and sound are in place, the actual decoding can begin.

phoneme: the smallest unit of a speech sound that, if changed, makes a difference in word meaning.

grapheme: a written symbol that represents a sound (phoneme), either a single letter such as *a* or *k* or a sequence of letters such as in *ai*, *sh*, *ow*, *igh* *tch*, *ough*, etc. in English or as in *th*, *ng*, *xh*, *gq*, *tsh*, etc. in isiZulu.

phonological awareness: an individual’s awareness of the phonological (sound) structure of words. Phonological awareness involves the detection and manipulation of sounds (syllables and phonemes) at various levels of the sound structure.

alphabetic principle: the letters of the alphabet and some combinations of letters are the symbols used to represent the speech sounds of a language based on systematic and predictable relationships between written letters (as symbols) and the sounds they represent.

letter-name knowledge: of the names of the letters of the alphabet. For example, in English the letter *a* is called “ay” and the letter *l* is called “el” and the letter *g* is called “gee”.

letter-sound knowledge: of the relationship between **letters** and **sounds**. It is the combination of phonology (sounds in speech; phonemes) and orthography (graphemes).

Phonics and the beginning of decoding

The synthetic phonics approach entails teaching the learners the letter-sound relationships up-front and systematically. So, they need to be taught the letter-sounds one by one and then only do they combine them to form words and conversely segment words into graphemes and map sounds onto them.

Now the child can start to decode simple words on the basis of the letters of the alphabet known. Initially words will be sounded out slowly and labouriously. There is a large range of exercises that can be done to help this.

More advanced decoding and fluent reading

With experience, more complicated combinations of letters and words can be **decoded** and growing understanding of the **morphology** of words aids the development of fluent reading in which the decoding of words become more and more automatic (as if whole words and phrases are being read at once [though this is not actually so]).

This fluency is vital for the full comprehension of the meaning of the text (which is very difficult if all the reader's short term memory is tied up with slowly sounding out of letters and words).

The process of mastering the system of sound-letter relationships used in reading and writing is often called phonics. Phonics requires learners to know and match letters or letter combinations with word sounds, learn the rules of spelling, and use this information to decode (read) and encode (write) words.

Writing

Writing is the reverse of the process of decoding. It is the encoding of words into text – from phoneme to grapheme. In practice learning to encode, to write, can take place simultaneously with learning decoding.

Spelling words is particularly difficult in English because of the different morphological forms of words that come from the various languages embedded in modern English.

We have a problem

South Africa has long had a problem with the effective teaching of reading and writing. International studies of literacy in different countries have shown that South African children perform very badly – in the 2006 Progress in International Reading Literacy Study (PIRLS) South African learners performed the worst of 45 education systems that participated (Howie *et al.* 2008). A large majority of South African learners did not reach Grade appropriate literacy levels, a finding repeated in 2016 (Howie *et al.*, 2017).

It is a major concern that after four years of schooling approximately three-quarters of learners in South Africa are still unable to read for meaning at the end of Grade 3. This is a major challenge because the educational success of learners at school level and beyond depend very much on successful early literacy of which the most important components are learning to read and write. It is essential

decode: in reading, the ability to understand that the letters in written words represent the sounds of the spoken words and applying this knowledge of letter-sound relationships, including knowledge of letter patterns, to correctly sound-out and pronounce written words.

morphology: the study of the structure of words as combinations of smaller units of meaning (morphemes), how they are formed, and their relationship to other words in the same language. Such study analyses the structure of words and parts of words, such as stems, roots, prefixes, infixes and suffixes.

that learners should have mastered the important skills of reading and writing by the end of Grade 3. It is imperative for them to acquire these skills successfully because their ability to read and write will not only determine the success of all future learning and academic progress, it will also have a profound influence on their employability and eventually on their quality of life.

The ultimate aim with reading is to be able to read for meaning, but like so many other complex skills, reading entails a number of important components and steps.

One of the most important of these steps is that of decoding.

The development of decoding skills benefits from the explicit and systematic teaching of phonological awareness, alphabetic knowledge, phonics, morphological awareness and oral reading fluency.

Therefore this study guide focuses on these components of reading that form the basis of decoding in reading.

Learning to Read and Reading to Learn

Children learn to read and write for two main purposes (both in and out of school):

- for the experience (often pleasurable) of reading literature
- to acquire and use information from texts.

It is these two purposes that are measured by the Progress in International Reading and Literacy Study (PIRLS) (Mullis *et al.*, 2009, p. 13).

Within each of these two major reading purposes, four processes of comprehension are assessed, namely, the ability to:

- focus on and retrieve explicitly stated information
- make straightforward **inferences**
- interpret and integrate ideas and information
- examine and evaluate content, language, and textual elements.

inference: a guess, belief or opinion that you develop from the information that you have

Becoming proficient at listening and speaking and becoming proficient at reading and writing

We, as humans, are born with an innate ability to hear and produce speech sounds and to attach meaning to the basic units of speech (words and sentences). Every child exposed to spoken language acquires a level of proficiency as a listener and speaker by simply being exposed to language, unless that child suffers from a particular speech or cognitive deficit. Children don't need to be taught explicitly to listen and speak, they are born with the innate ability to learn to do so. Differences in oral proficiency between children are, however, due to differences in the richness and broadness of the language usage they are exposed to. Children who are exposed to rich oral language from an early age learn more easily to read and write.

On the other hand, reading and writing are not biologically innate language skills. The child has to be explicitly taught to read and write. This fact has been

emphasised by numerous scholars, among others Carreker (2020, p. 1) who explains that while we can learn to listen and speak without explicit, systematic, and cumulative instruction, this is not true for learning to read and write. Snow (2019, p. 2) maintains, "... reading is not a biologically natural thing to do". Humans have relatively recently developed the ability to read and write. Snow and Serry (2019, p. 1) allude to the fact that while reading is a transformative experience it is also a "biologically unnatural" process that humans have been doing for only a brief time in evolutionary terms". Dehaene (2009, p. 4) emphasises the fact that writing was invented only about 5 400 years ago and the alphabetic system we use is a mere 3 800 years old.

Reading is a complex activity, it takes time to develop, and effective, explicit instruction is beneficial to its development. Indeed, Ziegler and Goswami (2006) and Dehaene (2017) among others claim that reading is one of the most complex achievements of the human brain.

The key components of reading

In 1997 the Congress of the United States of America appointed a National Reading Panel to review the research on reading and to identify the most effective methods for teaching reading. After scrutinising more than 10 000 studies on teaching reading the panel drafted a report with recommendations on methods that actually work for teaching children to read (National Institute of Child Health and Human Development, 2000).

"The Big Five" essential components for teaching reading recommended in the National Reading Panel report submitted in 2000 are the following:

1. **phonological awareness**
2. **phonics**
3. **(oral) reading fluency**
4. **vocabulary building**
5. **comprehension.**

Even though this report obviously speaks to learning to read in English, the components are generally valid for teaching reading in any alphabetic language.

In 2006 a similar review on teaching reading in primary schools was produced in the United Kingdom, the Rose Review, entitled *An Independent Review of the Teaching of Early Reading*. The study highlighted five capabilities that children should develop in order to progress to successfully learning to read. These are:

1. **the recognition of letters and groups of letters such as digraphs**
2. **the ability to sound out phonemes,**
3. **the ability to hear and blend phonemes,**
4. **reading of phonically regular words and**
5. **reading some irregular words.**

The Rose Review strongly recommends the use of synthetic phonics (Parker, 2019b) and views it as the most efficient approach to teaching reading to children coaching them to become skilled readers, children who can read for meaning.

digraph: a combination of two letters pronounced as a single sound (a phoneme)

irregular words: words that are hard to decode as the letters do not follow the most common letter-sound correspondences. Irregular words are common in English but not in African languages. Examples are "the", "to", "do", "of", "was", "said", and "know".

The most basic task of reading is to decipher the meaning of individual words from print, their relationship to other words in a sentence and to construct the overall meaning of the text in which the words and sentences occur. Decoding is the key to this and this study guide on *Decoding in reading* covers most of these essential components noted above (except for vocabulary building and reading comprehension). There are study guides on *Vocabulary* and *Reading comprehension* and many other resources devoted to reading comprehension (such as Pretorius and Murray (2019a, 2019b)).

Decoding is not possible without initial letter-sound knowledge (Adams, 1994; Share, 2008). Moreover, the ability to decode words quickly and accurately is essential for becoming a reader. Successful reading and comprehension rest on the ability to decode text quickly and accurately. It is essential to develop fluency in reading. While learners will start off sounding out words they will eventually need to recognise recurring letter patterns in their language based on orthographic, phonological, morphological and semantic information relating to smaller and larger segments of words (Castles *et al.* 2018; Ehri 2005). When beginner readers encounter words frequently these words become familiar and known, and they recognise word chunks and develop word-specific knowledge that speeds up and automatise the reading process which in turn frees up the short term memory for comprehension rather than focusing on word decoding. The causal relationship between the pace and accuracy of word reading and reading comprehension has been confirmed in many research studies. Consider for instance Tunmer and Hoover (2019 pp. 83-84); Schwartz and Sparks (2019, p. 3); Spaul, Pretorius and Mohohlwane (2020, p. 3)

There are a number of reasons for the poor reading ability of our learners. Some of them do not become good readers because they suffer from severe learning problems while others fail because of a lack of adequate resources. Many of them fail because they are not taught reading in the most effective way and/or because of insufficient time spent on developing skilled reading in school. One of the factors that contributes to learners not reading in the most effective way is the fact that the teachers are not adequately trained in the teaching of reading (Pretorius and Mokhwesana, 2009; Taylor, 2014).

The terminology of reading teaching

As with any discipline, the study of reading, which is itself a sub-discipline of linguistics, the study of language, has its own descriptive terminology. To fully grasp the details of reading instruction it is helpful to become familiar with and understand the definitions of key terms and concepts - letters, graphemes, phones and phonemes, syllables, phonological awareness, phonics, morphology, etc.

The study guide, *Language and Literacy*, provides much necessary background knowledge of the technical language used in the study of reading. It is not that this vocabulary has to be taught to children, though some undoubtedly should be (for example, the distinction between vowels and consonants, etc.), but they are useful for the teacher's precise understanding of the foundational elements of the teaching of reading. The teacher must have an understanding of the sound system (or phonology) of the language and its orthography (or writing system). Knowledge of morphemes (the smallest meaningful parts of words) also contributes to teaching the decoding and understanding of the meaning of words.



PrimTEd Teaching Reading Study Guides

Study guide 6:

Vocabulary

Primary Teacher Education project
Department of Higher Education and Training



Sesotho and IsiZulu Reading Project

Study guide 2:

Language and Literacy

Primary Teacher Education project
Department of Higher Education and Training

Unit 1: Self test questions

1. What is decoding?

2. Do children have a natural ability to decode?

3. What is a phoneme?

4. What is a grapheme?

5. What is morphology in a language?

6. What is phonological awareness?

7. What is phonics?

8. What are the commonly called the "big five" components of the teaching of reading.

9. Write a brief outline of what you would say about the purpose of reading to learners at the start of teaching them to read.

10. Before children can learn how to decode they need to have some

_____ - _____ knowledge.

2. What is phonological awareness and why is it important for reading?

Preliminary reading

Language and literacy

Unit 3. The structure of words and sentences (pp. 9-12)

Unit 4. The sounds of spoken language - phones and phonemes (pp. 13-16)

Unit 5. Phonological awareness - syllable awareness (pp. 17-20)

Unit 6. Phonological awareness - phonemic awareness (pp. 21-24)

Writing involves a visual encoding system that represents spoken language. It therefore stands to reason that to be able to decode text, to read text, a child needs to understand the coding system by knowing the significance of each symbol (letter and grapheme) of that system. The child must thus understand that the grapheme **a** represents the vowel sound /a/. In the same way that it is essential to teach children the value of the numerals before they start with mathematics so it is essential to teach them the writing code when they start to read and write.

But there is an even more prior understanding that the child has to gain before they can read or write – that words are made up of sounds. This understanding, this awareness, is what is called phonological awareness.

Before discussing phonological awareness it is necessary to ensure that one has a clear understanding of the concepts ‘letter’, ‘grapheme’ and ‘phoneme’ and the difference between the terms ‘phone’ and ‘phoneme’. (Please refer to *Language and Literacy* Units 3 and 4.) One also has to be conscious of the distinction between “phonological awareness” and “phonics”.

Phonological awareness is a broad term that refers to the identification and manipulation of **aural** units of speech. Phonological awareness is an individual’s awareness of the phonological structure, or sound structure, of words. It involves the detection and manipulation of sounds at various levels of sound structure. It is a **metalinguistic** skill, requiring conscious awareness and **reflection** on the structure of language.

Children must learn to identify and manipulate speech sounds in a developmental progression of large to small pieces of language. This includes learning that a sentence is composed of words, that words can be divided or segmented into **syllables**, and that syllables can be split into separate sounds (**phonemes**).

By definition, phonological awareness is the awareness of and ability to manipulate the sounds of language. Though some of the knowledge and skills necessary to learn to read in a particular language are transferable to another language, someone learning to read in a particular language has to have knowledge and skills relating to the phonological structure and vocabulary of that particular language.



Sesotho and IsiZulu Reading Project

Study guide 2:

Language and
Literacy

Primary Teacher Education project
Department of Higher Education and Training

decode: to discover the meaning of information given in a code. We decode speech by decoding the speech sounds into intelligible language. In reading we apply our knowledge of letter-sound relationships, including knowledge of letter patterns, to correctly sound-out and pronounce written words.

aural: related to the sense of hearing

reflection: serious and careful thought about something

meta: from the Greek “meta-”, meaning ‘after’ or ‘beyond’) is a prefix meaning more comprehensive or transcending.

metalinguistics: the branch of linguistics that studies language and its relationship to other behaviour. Metalinguistic skills involve understanding of the rules of language. When learner readers develop their metalinguistic capabilities they become consciously aware of language and the components of language, especially heightened phonological awareness, which is a key precursor to literacy.

Teaching phonological awareness

Phonological awareness has to do with a beginner reader acquiring the knowledge that spoken language comprises different sounds and also gaining the skills to be able to manipulate these sound units – segmenting a spoken word into its constituent syllables and phonemes and on the other hand, being able to blend the individual syllables and phonemes to form a word. In the early stages, it does. Phonological awareness includes phonemic awareness, syllable awareness, and prosody awareness.

Phonemic awareness enables a listener to hear and identify the separate sounds in a stream of speech (e.g. in English to identify the same sound in ‘bad’, ‘sad’, ‘glad’ and ‘mad’, and to distinguish between the sounds in ‘bed’, ‘bad’, ‘bud’, and ‘bid’). These separate sounds are called **phonemes**. Phonemic awareness relates only to speech sounds, not to alphabet letters or sound-spellings. [But, because phonemes are the units of sound that are represented by the letters of an alphabet, an awareness of phonemes is key to understanding the logic of the alphabetic principle and thus to the learnability of phonics and spelling.]

Syllable awareness enables the listener to hear and identify the syllables in words (and is particularly important in the African languages in which words are highly syllabic).

Prosody awareness is of the patterns of **stress** and **intonation** in a language.

Phonological awareness teaching should start very early, ideally before school and it often does, albeit not formally. Parents, guardians, and older siblings may for instance help children to identify and correctly pronounce speech sounds they have difficulty with. Phonological awareness training should start in Grade R and continue in Grade 1 and 2 (as indicated in the *Curriculum and Assessment Policy Statement (CAPS)* guidelines (Department of Basic Education, 2011) as well).

Children, though some will pick up this awareness themselves, must be taught to tune in to, the sounds of language. They need to notice that some words **rhyme** or that sounds **repeat** themselves in **alliteration**.

Then they must learn to identify and learn to manipulate them in a developmental progression of large to small pieces of language. This includes learning that a sentence is composed of words, that words can be divided into **syllables**, and syllables can be split into separate sounds (**phonemes**).

Rhyme and repetition are common ways of sensitising learners to such an understanding.

Rhyme, in particular end rhyme, (the rhyme at the end of a line of text) is used successfully in some languages (such as English) to sensitise learners to sound patterns in words and as a strategy to remember words in context. It is phoneme correspondences in words that leads to rhyme (e.g. impahla isihlahla, impaka isaka; My cat is nice, my cat eats mice.).

Rhyme is used in many languages as a poetic technique to sensitise the learners to the sound patterns of the language. However, due to the phonological and morphological structure of the African languages, rhyme is far less effectively used as a language ordering device compared to languages such as English.

stress: the degree of emphasis given a sound or syllable in speech or to certain words in a phrase or sentence

intonation: the pattern or melody in speech that helps indicate the attitudes and emotions of the speaker (e.g., surprise, anger, wariness). Intonation is primarily a matter of variation in the pitch level of the voice, but in languages such as English, stress and rhythm are also involved.

rhyme: in poetry when there are corresponding sounds at the ends of pairs of lines

alliteration: the repetition of the same consonant sound at the beginning of several different words used in a sentence or paragraph

syllable: a single speech sound (a single segment of uninterrupted sound that is typically produced with a single pulse of air from the lungs), usually having one vowel sound (with or without surrounding consonants), either a whole word or one of the parts into which a word is separated when it is spoken or written.

In the African languages repetition, linking and reduplication are used as ordering or poetic devices instead. The African languages though, use repetition and linking rather than segmental rhyme. (Please refer to *Language and Literacy* Unit 6 for a discussion of these linguistic devices.) Consider for instance the repetition in these two isiZulu nursery rhymes (izilololo) below:

Liyaduma, liyaduma

Liyaduma, liyaduma.

(Abantwana bashaya izinyawo phansi belingisa ukuduma kwezulu.)

Uyezwa, uyezwa?

(Abantwanai benza ngathi bayalalela.)

Amacons' emvula, amacons' emvula.

Co, co, co!

(Abantwana balingisa ukuconsa kwemvula ngezandla.)

Sengimanzi nte,

(Abantwana bayaqhaq hazela.)

Nawe futhi!

(Lowo nalowo ukhomba umngane wakhe.)

Udokotela

San'bona bo!

Yebo.

Ninjani?

Asiphilile.

Niphethwe yini?

Siphethwe yizisu.

Zinenz' njani?

Ziyasiguba, ziyasiguba.

Yidlani imifino!

Sidla imifino.

Yidlani izithelo!

Sidla izithelo.

Yidlani umdokwe!

Sidla umdokwe.

Yidlani amasi!

Sidla amasi.

Sesingcono, sesingcono.



Sesotho and IsiZulu Reading Project

Study guide 2:

Language and Literacy

Primary Teacher Education project
Department of Higher Education and Training

suprasegmental:

meaning properties that are above or over more than individual phonetic segments (vowels and consonants) such as syllables and larger units of speech

pitch: the rise and fall of our voice when we speak. So we can say words in a high or low pitched way. In English pitch is directly related to word and syllable stress. We use pitch to give subtle meaning to sentences, to convey emphasis, contrast, and other such features in what is called intonation. The words “pitch” and “intonation” are often used interchangeably. Some languages, including most African languages, use pitch to distinguish or differentiate words. These languages are called tonal languages.

tone: the feature in tonal languages where the same word has a different meaning depending on the pitch with which it is spoken

diacritic: a sign, mark, point or accent that is a small symbol (a glyph), which when written above, below, through or on a letter, indicates a different phonetic value from the same letter when unmarked or differently marked

orthography: the conventional writing and spelling system of a language. It determines the way the speech sounds of the language are represented by graphemes and the word division applied in the language.

Phonological awareness is a crucial linguistic skill that supports reading. Children must be able to both segment a spoken word into its constituent syllables and phonemes and on the other hand, they must also be able to blend the individual syllables and phonemes to form a word. Segmenting and blending of sounds are the two most important phonological awareness operations. (See *Language and Literacy* Unit 6 for more on this.)

Teaching prosody

Prosody refers to the patterns of stress and intonation in a language (or more specifically, in poetry). It describes the “music” of the language, the rhythmic and tonal aspects of speech. (See *Literacy and Language* Unit 12 , page 55.)

Prosody is concerned with those elements of speech that are superimposed on phonemes, words, or sentences. Prosody, or the **suprasegmental** qualities, involve **tone**, length, **pitch**, **intonation**, rhythm and **stress** (though stress does not feature in the African languages as a grammatical device.)

Unlike some languages, Sesotho and isiZulu do not use **diacritic** signs in the orthography to mark the suprasegmental qualities that operate on the word and sentence level in these languages even though vowel length or the use of high or low tone is often the only quality that marks the difference in meaning between two words or sentences.

Sentence Tone

In spoken language tone may be the only characteristic to distinguish between a statement and a question sentence in the African languages. In the **orthography** a question mark is obviously used to mark a question sentence. Consider the rising tone at the end of the question sentence in the examples below. In spoken language the question is distinguished from the statement only by the rising tone at the end of the sentence.

Nizobhala isivivinyo. (‘You will write a test.’)

Nizobhala isivivinyo? (‘Will you write a test?’)

Vowel Length

In the sentences below note how the difference in length in the pronunciation of the two /a/ vowels (in the word “bakhwela”) lead to a difference in the meaning of the verb. The bold typed vowel /a/ in the first sentence is short while the bold typed vowel /a/ in the second sentence is pronounced with long length. This difference in length marks the first verb as a present tense form and the second verb as a remote past tense form.

Present tense:

Abantwana **bakhwela** intaba manje. (‘The children are climbing the mountain now.’)

Remote past tense:

Abantwana **bakhwela** intaba ngesonto eledlule. (‘The children climbed the mountain last week.’)

These suprasegmental qualities of tone and length affect vowels. Vowels may have a high, low or rising-falling tone and they may also be short, pronounced with length or pronounced with long length. Tone is not indicated in the orthography of Sesotho and isiZulu. This means that the applicable tone needs to be deduced from the context.

Word Tone

Tone is not indicated in the orthography of Sesotho and isiZulu. This means that the applicable tone needs to be deduced from the context.

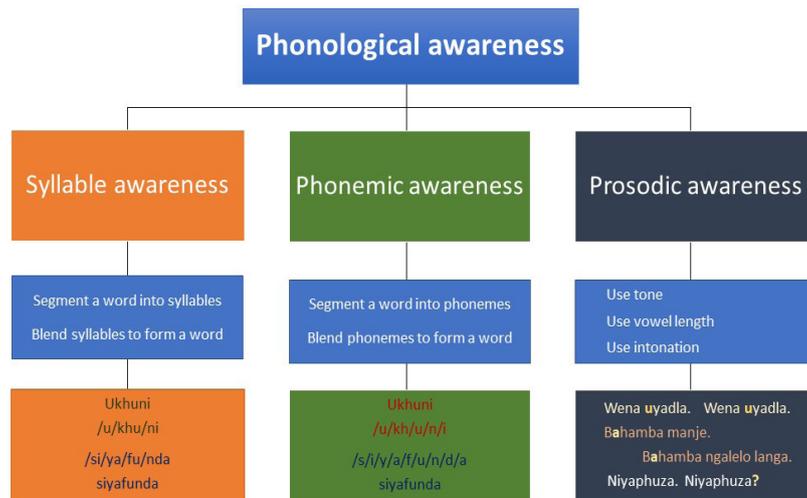
The written question, “Usebenza lapha?” is ambiguous. It may mean, ‘Do you work here?’ or ‘Does he/she work here?’ depending on the tone on the subject morpheme **u-**. The ambiguity in the written form exists because the tone is not marked. If the subject morpheme **u-** is pronounced with low tone, thus “**Ú**sebenza lapha?”, the meaning is ‘Do you work here?’ If the subject morpheme **u-** is pronounced with high tone, thus “**Ú**sebenza lapha?,” the meaning is ‘Does he/she work here?’

The penultimate (second last) vowel in a word is normally pronounced with length, thus “sisath**e**.nga” (‘we are buying’) (with length on the vowel **e**). The penultimate vowel in a sentence is normally characterised by long length thus, “Sisath**e**.nga isi**i**.nkwa ma**a**:nje” (‘We are still buying bread now’). Note that while the penultimate (next to last) vowel of each word is pronounced with long length (marked with **.** after the vowel) the penultimate vowel of the last word in the sentence (marked with **:** after the vowel) is pronounced with long length as in the example above.

Because of the absence of diacritic signs in the orthography to signal these suprasegmental qualities, these unmarked crucial differences pose a challenge to the beginner reader. The reader must decide on the appropriate intonation pattern in order to decode the relevant meaning of the text in such instances and the cues may be in the neighbouring text and this obviously complicates the reading process.

From the preceding discussion it is quite clear that the absence of diacritic signs in the orthography of Sesotho and isiZulu poses challenges for the beginner reader in these languages. Teachers must be aware of these challenges and assist the beginner reader to understand the suprasegmental qualities of speech and how to identify and use them correctly in speech.

Below is a schematic summary of the components of phonological awareness (with reference to the African languages).



The distinction between Phonological Awareness and Phonics

Phonological awareness and phonics are both crucial for learning to read. Both phonological awareness and phonics have to do with the speech sounds that constitute words. However, we need to distinguish clearly between these two concepts.

Phonological awareness

Phonological awareness is a broad umbrella term that refers to the identification and manipulation of units of speech in **aural** language. The beginner reader has to understanding that spoken language comprises different sound units and how these units relate to each other. Phonological awareness includes **syllable awareness, phoneme (or phonemic) awareness and prosodic awareness.**

Phonics

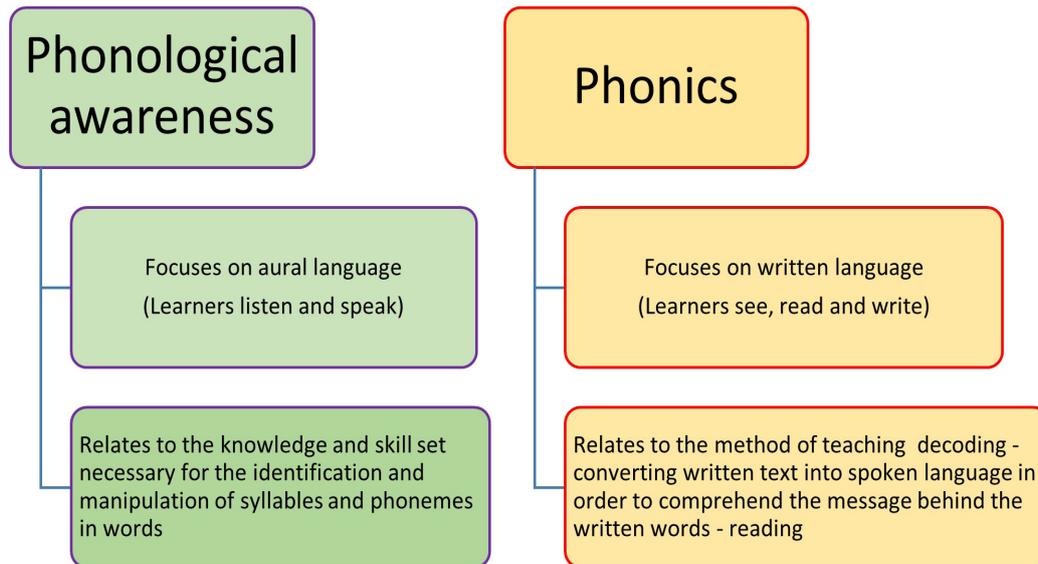
Phonics is the system of sound-letter relationships used in reading and writing. Phonics requires learners to know and match letters or letter combinations with word sounds, learn the rules of spelling, and use this information to decode (read) and encode (write) words.

The word “phonics” is also often used of the particular methods of explicit instruction in the system of sound-letter relationships.

Both phonological awareness and phonics entail the identification, segmentation, substitution, deletion and blending of syllables and phonemes.

The differences between phonological awareness and phonics are summarised in figure below.

The differences between phonological awareness and phonics



The foundational importance of phonological awareness and phonics

Phonological awareness and phonics are not the only important components of reading, but they are foundational. Without the ability to decode words, the reader will not be able to derive meaning from a text. Decoding demands of the reader an understanding of the orthography (or writing system) and the sound system (or phonology) of the language concerned. Knowledge of morphemes (the smallest meaningful parts of words) also contributes to decoding and understanding of the meaning of words. It is therefore important that all these components form an integral part of early reading (and writing) instruction.

Tests for phonological awareness

While there are various tests for phonological awareness in languages such as English, no standardised tests exist presently for Xitsonga, Sesotho, TshiVenda, Siswati and isiNdebele. Wilsenach (2019) developed phonological awareness tests for Northern Sotho while Schaefer (2021) developed tests for isiXhosa and isiZulu.

Phonological awareness tests are essential for identifying at risk learners in order to give additional attention to their phonological awareness knowledge.

Unit 2: Self test questions

1. Does phonological awareness apply to aural or written units of speech?

2. What does phonemic awareness enable one to do?

3. Prosody awareness is _____

4. Define the following:

stress – _____

intonation – _____

alliteration – _____

rhyme – _____

5. Which of these words – shop; café – contains a diacritic? _____

6. What is word tone? _____

7. What is phonics? _____

8. Distinguish between Phonological awareness and Phonics:

3. Phonological awareness – syllables

Preliminary reading

Language and literacy

Unit 5. Phonological awareness – syllable awareness (pp. 17-20)

Distinguishing between Vowels and Consonants

One of the prerequisites for the teaching of phonological awareness (and phonics) is a basic understanding of the distinction between vowels and consonants. This knowledge is essential for a proper understanding of the syllable structure and onset and rime in a syllable as well as the basic principles of word building. Since there are a limited number of vowels in African languages (7 in Sesotho and 5 in isiZulu – English has at least 20!) it is easier to first teach children the vowel sounds and then point out that all other sounds are consonants.

There are five basic vowels in isiZulu and they are represented by the letters /a/, /e/, /i/, /o/ and /u/:

/a/ in "amandla"

/e/ in "intethe"

/i/ in "ipiki"

/o/ in "ogogo"

/u/ in "ufudu."

All other speech sounds are called consonants (including the semi-vowels [j] and [w] – also known as glides). Consonants are, for instance, the sounds /b/, /t/, /s/ and /z/. Letters appearing in a particular sequence without a vowel between them may qualify as one sound (i.e. one phoneme), as in:

/kh/ in "ikhekhe"

/ng/ in "ingubo"

/hl/ in "ukuhleka"

/gx/ in "uyagxuma"

The only isiZulu consonant that is syllabic under certain conditions is /m/, while in Sesotho the consonants /m/, /n/, and /l/ may be syllabic.



Sesotho and isiZulu Reading Project

Study guide 2:

Language and
Literacy

Primary Teacher Education project
Department of Higher Education and Training

The syllable as a unit of language

A syllable is a unit of unbroken sound usually having one vowel sound with or without surrounding consonants. Syllables combine to form words and every word is made from syllables.

After a syllable there is a natural break within the word where the speaker will insert a short pause when pronouncing the word slowly.

The two most common of several types of syllables are:

- **Closed syllables** (symbol VC) have a single vowel with a short sound and end with a consonant. If the word has three or more letters it has a consonant before the vowel and one or more after the vowel (CVC). If a word has two closed syllables next to each other, there will be two consonants between the vowels (e.g. “sum-mer,” “com-mon”).
- **Open syllables** (symbol V) end with a single vowel with a long sound. They have no more than one consonant between the open syllable and the next vowel (“ba-ba”). Open syllables are typical of African language syllables.

In some languages most words can be easily broken up into syllables, especially in the African languages.

Learners are usually more aware of the first and the last syllables in words.

Syllables in the African languages

The African languages have an open syllable structure which means that a vowel generally marks the end of a syllable, as in the following examples:

Sesotho: /ba/ /a/ tsa/ma/ya/, /ba/ /a/ /qo/qa/, /le/di/mo/, /ma/bu/tsha/bu/tsha/

IsiZulu: /u/wi/le/, /si/ya/se/be/nza/, /i/zu/lu/, /a/ma/nto/ngo/ma/ne/.

There is always a syllable break after a vowel in isiZulu and Sesotho.

Syllables may be of different lengths, as described below.

A syllable may comprise a **vowel (V) only**, thus for example the vowel /u/ in /u/ ba/ba/ or the vowel /i/ in /i/tshe/ or the vowel /o/ in /o/Vu/si/.

A syllable may have the **consonant vowel structure (CV)** which means that it can be any consonant phoneme followed by a vowel. Examples of single consonant phonemes followed by a vowel are:

/bo/ in /bo/na/, /qa/ in /qa/la/ , /su/ in /i/si/su/, /ti/ in /i/ka/ti/.

Phonemes represented by two letters (i.e. digraphs) are also phonemically CV for example the /t^h/ in the syllable /thi/ in the word /thi/na/ or the phoneme /dl/ in the syllable /dla/ in the word /si/dla/. These consonant phonemes /dl/ and /t^h/ are each represented by two letters and comprise digraphs representing a single consonant sound (C). They are not consonant blends /CC/.

The consonant sound [tʃ] in the word “itshe” (‘stone’) has three letters, namely *t*, *s*, and *h*. These three letters constitute one sound. and is therefore called a trigraph.

A syllable may also comprise the **CCV** structure. Examples of syllables comprising two consonant phonemes followed by a vowel are:

the phonemes /n/s/i/ in the syllable /nsi/ in the word /i/nsi/mbi/

the phonemes /n/t/o/ in the syllable /nto/ in the word /i/nto/mbi/

the phonemes /m/b/i/ in the syllable /mbi/ in the word /i/nto/mbi/

the phonemes /n/dl/e/ in the syllable /ndle/ in the word /i/ndle/la/.

A syllable may have a **CCCV** structure involving a sequence of consonants, also referred to as consonant blends. Examples of such structures are the following:

the phonemes /n/t/w/a/ in the syllable /ntwa/ in the word /i/ntwa/yi/ntwa/yi/ and in the phonemes /m/tsh/w/e/ in the syllable /mtshwe/ in the word /u/mtshwe/tshwe/.

A syllable may comprise the **bilabial consonant /m/ only**. The /m/ is the only isiZulu consonant that may be syllabic (thus constituting a syllable on its own) in certain contexts, as in /u/m/ntwa/na/ and /ngi/ya/m/tha/nda/. It is only the shortened prefix **um-** instead of **umu-** of isiZulu **noun classes 1 and 3** and the object morpheme of classes 1 and 1a **-m-** instead of **-mu-** that results in the /m/ being syllabic.

Compare the syllable structure of the nouns from classes 1 and 3: class 1, /u/mu/ntu/ but /u/m/fa/na/; class 3, /u/mu/zi/ but /u/m/si/la/.

Compare the syllable structure of verbs containing the object morpheme **-m-** instead of **-mu-** of classes 1 and 1a: /Si/ya/m/bo/na/ umntwana but /Si/ya/mu/zwa umntwana; Ubaba /u/ya/m/bi/za/ uThembi but Ubaba /u/mu/pha/ isipho (uThembi).

In all other instances the /m/ is not syllabic. The m sound in the word /i/mbu/zi/ is not syllabic. The /m/ forms part of the consonant sequence /mb/ in the /CCV/ syllable /mbu/. The same is true for the /m/ in the word /i/mpo/ngo/.

Metre, onset and rime

The pattern or rhythm of speech, and especially poetic speech and writing (what we call its **metre**), comes from the stress or emphasis placed upon certain syllables.

In the African languages this is mainly through the long length of the penultimate (i.e. second to last) syllable of the word and especially on the long length on the penultimate syllable of the last word in the sentence. These characteristics contribute to a strong metre in these languages. (We can indicate length by the use of a colon, thus : after the particular vowel.) The word “siyafu:nda” (‘we learn’) has length on the vowel of the penultimate syllable. If this word is extended, the lengthening is moved to the vowel of the penultimate syllable, thus “siyafundi:sa” (‘we let learn/we teach’). The length has now shifted from the [u] to the [i]. In the word “siyafundisa:na” (‘we let each other learn/we teach each other’) the length has shifted to the second to last a].

The term **onset** refers is used to refer to the first sound in the syllable, therefore the consonant in /CV/. The consonant /z/ is thus the onset in the syllable /zo/ in

noun class: in the Bantu languages nouns are grouped according to their prefix. The nouns in each class refer to certain categories of things or concepts. There are 23 nominal classes though a particular language may not have all of them, for example isiZulu has 14, Sesotho and IsiXhosa have 15 and Tshivenda has 20.

onset and rime: In English a syllable can normally be divided into two parts: the onset, which consists of the initial consonant or consonant blend, and the rime which consists of the vowel and any consonant sounds that come after it.

It is not the same as “rhyme” but it is pronounced the same way. A **rhyme** occurs in poetry when there are corresponding sounds at the ends of pairs of lines. Words that have the same rime will always rhyme but not all rhymes are rimes.

epenthesis: the adding a new phoneme to the beginning or end of a word to make a new, different word, e.g. add /s/ to “at” to make “sat”

the word /zo/na/ or the sound /tsh/ in the syllable /tsha/ in the word /u/tsha/ni/. The term **rime**, on the other hand, refers to the last sound in the syllable /CV/, thus the vowel /o/ in the syllable /zo/ in the word /zo/na/. (These two terms are not particularly useful for the study of the African languages.)

Teaching phonological operations involving syllables

The same phonological operations or tasks pertain to both phonological awareness and phonics. The difference is that if the operation is applied to oral language, it is a phonological awareness operation but if it is applied to written language it relates to phonics. Moreover, the same phonological awareness operations can apply to both syllables and phonemes.

The only operation that applies to phonemes but not to syllables is **epenthesis**. Epenthesis has a very restrictive use in the African languages.

The six basic phonological operations are the following:

1. **identifying and matching** (identifying or recognising similar and different forms)
2. **blending** (putting together or combining)
3. **segmenting** (breaking up or distinguishing)
4. **deleting** (taking away),
5. **substituting** (replacing), and
6. **epenthesis** (adding).

Exercises based on the phonological tasks listed above may be applied to syllables or phonemes in different positions in the word (and not only the first and last ones).

The following sections are about how and when to teach phonological awareness and how teachers can help learners to develop phonological awareness.

Activities to promote syllable and phoneme awareness should be fun, with an emphasis on ‘let’s play sound games/ let’s play word games’. They should be done in Grade R and 1 – and only with Grade 2 or 3 children who still struggle with basic decoding.

The activities should be given in short bursts (5-10 minutes) every day. Also do them when explaining a new word (how many syllables, what’s the first sound, let’s break it up into smaller sounds)

Most learners have an intuitive knowledge of syllables (but they have more difficulty identifying and manipulating individual sounds (phonemes) than identifying and manipulating syllables). Hence, it is sensible to start with the operations involving syllables, but do not neglect the teaching of phonemes.

Identifying and Matching syllables

The simplest phonological awareness skill is the **syllable identification operation**.

Learners become aware of individual sounds and sound differences between words before they can manipulate them. It is therefore necessary to start with identification and matching exercises to introduce learners to the differences between small **grain** units in the word.

The teacher can prepare a list of names or of appropriate nouns and verb stems or verbs and let the children clap the syllables while saying the words after her. It is an easy task to get the children clap the syllables in a word while saying the word.

(The list is merely for the teacher. The children do not see the words, they simply hear it from the teacher when she reads the word from the list.)

This is a simple syllable identification and segmentation exercise, for example,

How many claps are there in these names:

Bokang?

Lebogang?

Thandekile?

Nomusa?

Another simple syllable identification exercise is to say a particular word and then ask the learners to say what syllable the word starts or ends with, for example:

Does the stem **-kala** start with the syllable /ka/?

Does the stem **-khipha** start with the syllable /khe/?

Does the stem **-vula** start with the syllable /vu/?

Does the stem **-klinya** end on the syllable /nya/?

Does the stem **-qeda** end on the syllable /tha/?

Does the word **amasi** end on the syllable /si/?

grain: in linguistics the particular smaller components within the whole word

The teacher may vary this exercise and eliminate guessing and increase engagement by asking the question differently.

Consider the examples below.

What syllable does the word **inja** start with?

What syllable does the word **abafundi** start with?

What syllable does the word **iphepha** start with?

What syllable does the word **phakathi** start with?

What syllable does the word **amanzi** end with?

What syllable does the word **itshe** end with?

What syllable does the word **ibhuku** end with?

What syllable does the word **thina** end with?

Syllable matching tasks (particularly the odd-one-out test) are basic phonological awareness tests and fairly easy for the learners to master.

The **odd-one-out operation** is one of the popular operations to develop or test the child's phonological awareness. In this operation the learner has to listen carefully to syllables or words pronounced slowly by the teacher and then identify the syllable or word which is different from the others in a group.

This operation should be applied to syllables and to sounds in words.

There should always be only one syllable or sound in one item in the set that differs from the others in the set.

The children should listen to the syllables as they are pronounced and identify the odd-one-out. The teacher should initially start with groups containing three items per group.

Always start with easier syllable types, for instance the /V/ and then the /CV/ syllable types and then gradually increase the difficulty level by using more difficult syllable structures.

The exercises below require that the teacher simply read the sets one row at a time to the learners while they identify the odd-one out by listening to the individual sounds. The learners do not see or read the sounds, they only hear them and then identify the one that is different.

The *minimal phonological contrasting pair test* can then be used to test general awareness of individual sound patterns and sound differences in words or verb stems.

This test entails comparing pairs of words or stems that are similar except for one syllable. Consider the examples below:

- Do the stems **-vula** and **-vuse** start with the same syllable?
- Do the stems **-thuma** and **-khulu** start with the same syllable?
- Do the stems **-cima** and **-qhenya** start with the same syllable?
- Do the stems **-dlala** and **-hlala** start with the same syllable?
- Do the stems **-khala** and **-khula** start with the same syllable?
- Do the stems **-phinda** and **-penda** start with the same syllable?
- Do the stems **-zama** and **-kothama** end with the same syllable?
- Do the stems **-hlola** and **-vula** end with the same syllable?
- Do the stems **-kopa** and **-khipha** end with the same syllable?
- Do the words **ikati** and **ithikithi** end with the same syllable?
- Do the words **umakoti** and **izinti** end with the same syllable?

The odd-one-out can be found in a sets of three syllables:

i	i	e	?
o	u	o	?
a	o	o	?
wa	wi	wa	?
le	la	la	?
to	fo	to	?

The difficulty level can now be increased by introducing more complex syllables. Bear in mind though that as an oral exercise this might be difficult for the learners. Start with the /CCV/ structure then /CCCV/ etc. (See the examples of different syllable structures supplied above.) Develop the exercises focusing in particular on sound sequences that the learners have difficulty identifying or distinguishing and ensure that the various syllable structures are included.

mbo	mbo	mpo	?
ntwa	nwa	ntwa	?
ndla	nhla	nhla	?
ngcwa	ngxwe	ngcwa	?

The next step is to identify a word in a set of words that has one syllable that distinguishes it from the other words in the set. Identifying the odd-one-out syllable in a set of words is obviously more challenging. Again, ensure to progress from easier to more difficult forms.

nina	nina	wona	=	?
ihlo	ifa	ihlo	=	?
isikhumba	isikhumba	izikhumba	=	?
umsila	umfula	umfula	=	?
ukudlala	ukuhlela	ukuhlela	=	?

Segmenting of syllables

Segmenting entails the process of breaking down a word into its constituent segments. For example:

- the word "siyadla" can be segmented into the syllables /si/, /ya/, /dla/
- the word "abantwana" can be segmented into the syllables /a/, /ba/, /ntwa/, /na/
- the word "siketekete" can be segmented into the syllables /i/, /si/, /ke/, /te/, /ke/, /te/.

Give the learners with individual words to segment into syllables. Start with simple words (initially focusing on names, pronouns, nouns and verbs) comprising two or three syllables and then gradually increase the difficulty level.

uThandi	>	/u/Tha/ndi/
nina	>	/ni/na/
amasi	>	/a/ma/si/
siyacabanga	>	/si/ya/ca/ba/nga/
isithuthuthu	>	/i/si/thu/thu/thu/
besisahlakula	>	/be/si/sa/hla/ku/la/

Segmenting and its reverse process of blending are the most important phonological operations to be mastered.

Blending of syllables

Blending is the reverse process of segmenting. Blending is the putting together or mapping of individual syllables to form a word, for example /i/ and /nto/ to form the word "into", or the syllables /ba/, /fu/ and /nda/ to form the word "bafunda" or /a/, /ma/, /nto/, /ngo/, /ma/ and /ne/ to form the word "amantongomane".

Ask the learners repeat the individual syllables of a word slowly after you and then blend them to form that word by pronouncing the word using the appropriate tone and length. Start with simple disyllabic words and gradually expose them to longer and more difficult words. (Initially avoid using nouns from classes 1 and 3 with the shortened prefix um- and monosyllabic verbs containing the object morphemes for classes 1 and 1a (-m-). In these cases the /m/ is syllabic and you want them to first grasp the general pattern, namely that the end of a syllable is marked by a vowel.)

Below are some examples.

/thi/ /na/	>	thina
/la/ /pha/	>	lapha
/zo/ /na/	>	zona
/i/ /si/ /tsha/	>	isitsha
/a/ /ba/ /fa/ /na/	>	abafana
/si/ /ya/ /the/ /nga/	>	siyathenga
/ngi/ /ya/ /ja/ /bu/ /la/	>	ngiyajabula

Once the learners are competent at blending the syllables to form words you can include examples of words containing the syllabic /m/. See the examples below.

/u/ /m/ /fu/ /la/	>	umfula
/u/ /m/ /zi/ /mba/	>	umzimba
/si/ /ya/ /m/ /tha/ /nda/	>	Siyamthanda (uNtombi)
/ba/ /ya/ /m/ /bo/ /na/	>	Bayambona (umntwana)

Learners can generally blend phonological segments before they can segment them.

The final two phonological operations, deletion and substitution of syllables are generally found more difficult by learners.

Deletion of a syllable

Deletion involves the removal of a syllable from a word, for example leaving iphuphu (< iliphuphu) instead of "iliphuphu" or uphondo (< uluphondo) instead of "uluphondo" or "sithand' amaswidi" instead of "sithanda amaswidi" (deletion of the last vowel /a/ of the word "sithanda").

Supply the learners with selected words made up of individual syllables and then let them delete particular syllables. (This exercise is easier to do when learners can already read written words and can look at the words in print.) Delete 1st, 2nd, 3rd syllable, etc.

Use examples in which the resultant form also constitutes a word (as illustrated in the examples below) rather than resulting in a nonsense word.

If we delete the 1st syllable in abantu what do we get?	> bantu
If we delete the 1st syllable in izinkomo what do we get?	> zinkomo
If we delete the 2nd syllable in siyathenga what do we get?	> sithenga
If we delete the 2nd syllable in ulunyawo what do we get?	> unyawo
If we delete the last syllable in isithombe what do we get?	> isitho
If we delete the last syllable in intombi what do we get?	> into

Substitution of a syllable

Syllable substitution involves the process of replacing one syllable with another, for instance, replacing the syllable /so/ in the word "sona" with the syllable /thi/ to form the word "thina" or replacing the syllable /ba/ in "bayaxoxa" with /ni/ to form the word "niyaxoxa".

Supply the learners with individual verb stems or words and then tell them to substitute particular syllables with the syllables given to them. Let them substitute the 1st, 2nd, 3rd syllable, etc.

-vika	Replace the 2nd syllable with /mba/
-thutha	Replace the 1st syllable with /fu/; /bu/; /su/; /tha/; /the/
siyathenga	Replace the 3rd syllable with /thu/; /nce/
ithuba	Replace the last syllable with /na/; /nga/
isibalo	Rreplace the last syllable with /mbo/; /ya/
bona	Replace the first syllable with /so/; /zo/; /lo/; /we/; /ye/; /mi/; /thi/; /ni/; /wo/; /yo/
liyagijima	Replace the first syllable with /a/; /zi/; /ba/
uyawa	Replace the first syllable with /ni/; /ngi/; /a/

Syllable-based tasks versus phoneme-based tasks

A possible reason why learners perform better with syllable-based tasks compared to phoneme-based tasks is that the syllabic structure of the African languages is fairly simple and systematic.

While the teaching of syllable awareness is important, it is also important to ensure that learners can perceive sounds within syllables and words, and that they grasp the relationship between speech sounds and the graphemes that represent them. It is thus important to focus on phoneme awareness as well.

Learners with knowledge of syllables and who can manipulate the syllable structure of words are not necessarily good readers. Good readers must also be sensitive to phonemes. Phoneme knowledge is a skill that can be transferred to some degree when a learner learns to read in a second (or third) additional language.

Unit 3: Self test questions

1. Identify the all the vowels and consonants in these words: amabandla; itshe; funda; motso; polelo.

Vowels: _____ Consonants: _____

2. Describe the features of an open syllable (V).

3. How many sounds does a digraph represent?

4. Distinguish between these two three symbols: C, CC, CCC

5. Distinguish between rime and onset.

6. Define epenthesis.

7. List the six main phonological operations involving syllables and phonemes.

- _____
- _____
- _____
- _____
- _____
- _____

8. How many syllables in these words "uThandi" and "especially".

9. Do the words "umakoti" and "izinti" end with the same syllable?

4. Phonological awareness – phonemes

Preliminary reading

Language and literacy

Unit 6. Phonological awareness – phonemic awareness (pp. 21-24)

Phonological awareness is made up of a group of components and the most sophisticated of these is **phonemic awareness**. This is the skill of being able to identify the individual sounds in words – the phonemes.

Phonemic awareness enables a listener to hear and identify the separate sounds in a stream of speech (e.g. in English to identify the same **a** sound in ‘bad’, ‘sad’, ‘glad’ and ‘mad’, and to distinguish between the different vowel sounds in ‘bed’, ‘bad’, ‘bud’, and ‘bid’). These separate sounds are called phonemes.

Phonemic awareness relates only to speech sounds, not to alphabet letters or sound-spellings.

Because phonemes are the units of sound that are represented by the letters of an alphabet, an awareness of phonemes is key to understanding the logic of the alphabetic principle and thus to the learnability of phonics and spelling. Awareness of individual sounds (phonemes) in words allows the reader to exploit letter-sound mappings which is essential for learning to read and should not be neglected.

Learners who struggle to read, also struggle with phonemic awareness. Such learners benefit from additional attention to and practice in phonemic awareness.

When children have a strong foundation in phonemic awareness, it becomes easy for them to understand that certain letters stand for specific sounds (phonemes). That is because they have experience blending sounds into words and taking words apart. And that enables them to start to decoding written text into letter sounds, holding them in memory, and blending them into words.

Phonemic awareness includes the ability to separate a word into the individual sounds that make it up (segmenting words) and to blend some single sounds into words (blending sounds into a word). It also involves the ability to add, subtract, or substitute new sounds in words.

These are some of the activities that phonemic awareness makes possible:



Sesotho and IsiZulu Reading Project

Study guide 2:

Language and
Literacy

Primary Teacher Education project
Department of Higher Education and Training

Phoneme matching:	identifying words that begin or end with the same sound, e.g. f ast, f ish, f all, f rog, f riend
Phoneme isolation:	identifying where a sound appears in a word, e.g. /a/ in b aba, m ama, or to identify what sound appears in a given position in a word, e.g. the first , e.g. b aba, m ama, g ogo, or last sound, e.g. a ba, a ma
Phoneme blending:	blending individual sounds into a word, e.g. /i/ /k/ /a/ /t/ /i/ into “ikati”
Phoneme segmentation:	the process of breaking apart the individual sounds that make up a word or syllable, e.g. “ikati” into /i/ /k/ /a/ /t/ /i/. Being able to do this is an essential skill for successful decoding. It is also needed in writing where one breaks down a language word into its component sounds and then selects the letters that represent those sounds to write the word.
Phoneme identification (or isolation):	identifying first, last and middle phonemes in a word (e.g. “ m ap” or identifying the phoneme in a list of words (e.g. /m/ in “ m ap”, “ m om”, “ r am”) in or identifying the sounds that a list of words have in common (say a list of words with the same beginning or ending phonemes).
Phoneme categorization:	being able to distinguish a different phoneme in a set of phonemes, e.g. where a learner is asked to identify a word that has a different or odd sound compared to the rest of the words, e.g. “ m at”, “ s at”, “ s ip”, “ s it”
Phoneme manipulation:	the ability to modify, change, or move the individual sounds in a word, e.g. change the first phoneme of the word “mat” to make a new word -> “ p at”, etc.
Phoneme addition:	adding a new phoneme to the beginning or end of a word to make a new, different word, e.g. add /s/ to “at” to make “ s at”
Phoneme deletion:	removing a phoneme (or a number of phonemes) from a word to make a new, different word, e.g. say “ m at” without the /m/ sound = “at”
Phoneme substitution:	substituting one phoneme for another in a word, e.g. “ p ig” to “ f ig”

All these activities need to be done individually with children.

Alliteration and Rhyme

Alliteration is the repetition of the same consonant sound at the beginning of several different words used in a sentence or paragraph, e.g. **R**ound the **r**ocks the **r**agged **r**ascal **r**an.

Phoneme correspondences in words also lead to **rhyme** (e.g. **n**ight **l**ight; **impahla** **isihlahla**; **impaka** **isaka**). Rhyme, in particular end rhyme, is used successfully in some languages (such as English) to sensitise learners to sound patterns in words and as a strategy to remember words in context.

Rhyme is thus one way used to develop phonological awareness.

English poetry has a variety of rhyme schemes in poetry ranging from the simple AABB pattern like this:

The day was very **sunny**. (A)
And the children were all **funny**. (A)
They then sat beneath the **trees** (B)
Until stung by some angry **bees**. (B)

to very complicated ones.

However, rhyme is not applied successfully in the African languages. In these languages repeating sounds, words or phrases are used rather than rhyme.

Sound sequences that are single phonemes

In the case of some words that include the sound sequence n+g, n+k and n+y the phoneme /n/ forms a single phoneme with the following consonant.

If the **nasal** sound /n/ appears before the consonants /g/, /k/ or /y/ it forms one phoneme with that following consonant. The nasal /n/ becomes phonetically [ŋ] when followed by a /k/ or /g/ as in the words “inkomo” (/i/ŋk/o/m/o/) and “ingubo” (/i/ŋg/u/b/o/). The /n/ also becomes phonetically [ŋ] when followed by a y in a word such as “inyama”, thus /i/ŋy/a/m/a/.

The /n/ also becomes a [ŋ] phonetically before the click sounds but does not form one phoneme with the click. Consider the examples “iyancela” (/i/y/a/ŋ/c/e/l/a/), “nxa” (/ŋ/x/a/) and “inqola” (/i/ŋ/q/o/l/a/).

Note that the n remains a separate phoneme in words such as “into” (/i/n/t/o/), “indlala” (/i/n/dl/a/l/a/), and “intshe” (/i/n/tsh/e/).]

The **semi-vowel** w often appears after certain consonants in Sesotho and isiZulu. The /w/ does not combine with the preceding consonant to form a single phoneme, it remains a separate phoneme in such cases. The semi-vowel /w/ thus retains its status as a separate phoneme when it is preceded by other consonants, even though it has a phonetic influence on the preceding consonant resulting in lip rounding in some of these consonants. Despite the phonetic influence the semi-vowel /w/ exerts on the preceding consonant it remains a separate phoneme. The word “utshwala” therefore comprises the phonemes /u/tsh/w/a/l/a/.

Teaching phonological operations involving phonemes

In the previous unit the focus was on syllable awareness tasks. The same awareness tasks are now repeated but the focus is on phonemes instead of syllables. (For more details on the phonemes of isiZulu and Sesotho please see Appendices A, B, and C.)

nasal: a nasal is a consonant produced with a lowered velum, allowing air to escape freely through the nose.

semi-vowel: a letter that can work as both vowel and consonant

Identifying and Matching phonemes

The first phonological awareness skill to be taught is the phoneme identification operation. (By this time, the learners should know the difference between vowels and consonants.)

The easiest version of the phoneme identification exercise is to ask the learners questions such as, “What sound does the stem -thula start with?” or “What sound does the stem -kala start with?” or “What sound does the word inja start with?” or “What is the last sound in the word indlu?”

Simple phoneme identification exercises such as those above can be done before moving to matching exercises described below.

The *minimal phonological contrasting pair test* can be used to test general awareness of phoneme differences in words or stems. This test entails comparing pairs of words or stems that are similar except for one sound. Consider the examples below.

- Do the stems **-sala** and **-kala** start with the same or different sounds?
- Do the stems **-thuma** and **-thula** start with the same or different sounds?
- Do the stems **-gxuma** and **-xhuma** start with the same or different sounds?
- Do the stems **-teta** and **-theta** start with the same or different sounds?
- Do the stems **-vuka** and **-fukama** start with the same or different sounds?
- Do the stems **-phendula** and **-phila** start with the same or different sounds?
- Do the words **inja** and **inkabi** start with the same or different sounds?
- Do the words **ihashi** and **imisele** start with the same or different sounds?
- Do the words **ameva** and **amanzi** start with the same or different sounds?
- Do the words **intethe** and **isaka** end with the same or different sounds?
- Do the words **unyawo** and **umnyango** end with the same or different sounds?
- Do the words **amafu** and **isitofu** end with the same or different sounds?
- Do the words **umakoti** and **izinti** end with the same or different sounds?

The *odd-one-out* operation involves reading sets of words to the learners one by one (three to five items per set) with one phoneme in the set being different from the others.

(There should be only one word that is different from the others in terms of one phoneme.)

Learners have to identify the odd-one-out. Let the learners first identify the word that is different and then indicate which particular phoneme in that word is different.

<i>Examples</i>	<i>Odd one out</i>	<i>Phoneme that differs</i>
la la le	= le	The phoneme /e/ as opposed to /a/
lapho lapha lapha	= lapho	The phoneme /o/ as opposed to /a/
izinto izinti izinto	= izinti	The phoneme /i/ as opposed to /o/
-dlala -hlala -dlala	= -hlala	The phoneme /hl/ as opposed to /dl/
-vutha -futha -futha	= -vutha	The phoneme /v/ as opposed to /f/
isitsha izitsha isitsha	= izitsha	The phoneme /z/ as opposed to /s/
isitha isitsha isitsha	= isitha	The phoneme /th/ as opposed to /tsh/

Blending of phonemes

Phoneme blending is the process of blending or stringing phonemes together to form a word. The purpose of this exercise is to alert the learners to the fact that words are made up of individual sounds that are blended.

“Say-out” the individual phonemes that make up a word and repeat them a bit faster and then let the learners repeat the phonemes in sequence but slowly. They should then sound out the individual sounds faster until they eventually blend the individual sounds to form a proper word.

/n/ /a/ /b/ /o/	>	nabo
/a/ b/ /a/ /n/ /t/ /u/	>	abantu
/s/ /i/ /y/ /a/ /th/ /e/ /ng/ /a/	>	siyathenga
/u/ /ph/ /o/ /n/ /d/ /o/	>	uphondo
/s/ /i/ /s/ /a/ /hl/ /a/ /l/ /a/	>	sisahlala

Segmentation of phonemes

Phoneme segmentation is the opposite of phoneme blending. In phoneme segmentation the learner has to identify each sound in the word. The teacher says a word slowly and the learner has to say out each sound separately.

The child must sound out the sounds that constitute the word to gain an understanding of word building processes and the correct pronunciation of words.

thina	>	/th/ /i/ /n/ /a/
leli	>	/l/ /e/ /l/ /i/
Zodwa	>	/z/ /o/ /d/ /w/ /a/
isitsha	>	/i/ /s/ /i/ /tsh/ /a/
inunu	>	/i/ /n/ /u/ /n/ /u/

Deletion of a phoneme

Illustrate to the children the principle of the deletion of a single phoneme/sound in a word.

Ask the learner to say the words one by one and then say it again, taking away the sound as indicated below.

abantu	omit the 1st sound	= bantu
isikhova	omit the 1st sound	= sikhova
ziyakhala	omit the 1st sound	= iyakhala
ufunda	omit the 1st sound	= funda
Angiboni umntwana	omit the 1st sound of umntwana	= Angiboni mntwana.

Substitution of a phoneme

Phoneme substitution involves replacing one phoneme in a word with another, for instance replacing the sound /i/ in the word "iyadla" with the sound /a/ to form the word "ayadla". (This exercise entails substituting the subject morpheme consisting of a vowel only with another subject morpheme consisting of a vowel only. (This application will in other words involve the subject morphemes a- of class 6, i- of classes 4 and 9, and u- of second person singular, class 1, 1a or 3.))

Exercises involving the replacement of the verb final /a/ of the positive with /i/ of the negative is also a good phoneme substitution exercise.

Consider for instance the example where the learner has to replace the final /a/ in the word "bafunda" in "Bafunda isiZulu" with /i/ to form the negative "Abafundi isiZulu." (Note that the negative morpheme a- at the beginning of the verb and the negative verb final morpheme -i are concomitant morphemes which means that they always appear together as in the verbs, "asiboni" and "asigijimi".)

Replace the final sound /i/ with /o/ in the word leli	>	lelo
Replace the final sound /i/ with /o/ in the word lesi	>	leso
Replace the final sound /a/ with /o/ in the word lapha	>	lapho
Replace the final sound /a/ with /o/ in the word laba	>	labo
Replace the sound /s/ with /z/ in the word isitsha	>	izitsha
Replace the sound /m/ with /b/ in the word umuntu	>	ubuntu
Replace the sound /d/ with /t/ in the word isondo	>	isonto

Say the word and then repeat it replacing the sounds as instructed.

siyavula	Replace the sound /v/ with /bh/
-vika	Replace the 1st sound with /ph/; /f/; /s/; /b/; /j/; /n/
-thutha	Replace the 1st sound with /f/; /b/; /v/; /s/
siyathula	Replace the sound /u/ with /e/; /o/
liyagijima	Replace the sound /l/ with /s/; /z/; /n/, /ng/
bona	Replace the 1st sound with /s/; /z/; /l/; /w/; /y/

Epenthesis of a phoneme

Epenthesis refers to the addition or insertion of a phoneme into a word, for example the insertion of the /s/ in ba + ekhaya > basekhaya obaba. Epenthesis occurs very rarely in isiZulu and it is therefore not necessary to spend much time on this phonological awareness skill.

Select examples of **locative** derived nouns preceded by a particle words such as the examples below. In these instances, a prelocative /s/ is inserted between the particle word and the locative derived noun starting with e- or o-. See the examples below.

Abantwana ba + esikoleni	>	basesikoleni
Lapha kufana na + ekhaya	>	nasekhaya
Bashona nga + ehlathini	>	ngasehlathini
Imvula iyana na + eThekwini	>	naseThekwini
Kuyashisa na + olwandle	>	nasolwandle

locative noun: a noun representing a place, location or direction

Unit 4: Self test questions

1. To have phonemic awareness means to be able to _____

2. What is phoneme isolation?

3. Which of these statements is NOT correct?
Analysis of phonemes means ...
 - (a) The isolation of sounds in words
 - (b) Listening and identifying the beginning, middle or final sounds in a word
 - (c) The part of reading where the eyes read the printed symbol on the page
 - (d) Knowing which letter of the alphabet matches with which sound
4. Which of these ways would you use to check if a child has begun to show phonemic awareness?
 - (a) Count the number of words in a read out sentence.
 - (b) Say the first sound heard in the word 'mat'.
 - (c) Point to the correct letters on an alphabet chart when the teacher names them.
 - (d) Say whether the two words 'cat' and 'mat' rhyme.

5. The alphabet, orthography, and language structures

Preliminary reading

Language and literacy, Unit 1. The Alphabet and orthography (pp. 5-6)
Unit 3. The structure of words and sentences (pp. 9-12);
Unit 7. The Alphabet and orthography (pp. 25-30)

Decoding demands of the reader an understanding not only of the sound system (or phonology) of the language, but of its orthography (or writing system) as well as its syllabic, morphological and sentence structures.

Is Learning to read more difficult in some languages than others?

A question that often comes up is whether some language orthographies make it more difficult to learn to read in the early stages of reading than others. The short answer is “Yes”.

The follow-up question would be: “What makes a text in one language more difficult to read than the same text in another language?”

Two main factors, namely the characteristics of the coding system (the orthography) and the language structure of the language determine the difficulty level of learning to read in that language. The factors that have an impact on the level of difficulty to learn to read in a particular language will be looked at in this unit.

The orthographies used in Sesotho and isiZulu

The orthographic system employed by the Sotho and Nguni languages respectively is one of the major differences between these two language groups.

The writing system used for Sesotho is called a disjunctive orthography while that used by isiZulu is called a conjunctive orthography. The difference between these two systems lies in the word division applied in them. One of the decisive factors that led to the use of a conjunctive orthography for the Nguni languages is the vowel changes that take place when two vowels are juxtaposed (appear next to each other) in a word. Vowel juxtaposing in isiZulu can lead to vowel elision (one vowel is simply omitted), semi-vowel insertion (/w/ or /j/ is inserted between the two vowels), replacement of a vowel with a semi-vowel (/w/ or /j/) or vowel coalescence (the two vowels coalesce to form a new vowel /a/ + /i/ > /e/ or /a/ + /u/ > /ɔ/).

The orthographic words of isiZulu are generally longer than those of Sesotho and this makes it more challenging to learn to read in isiZulu as opposed to learning to read in Sesotho.

The disjunctive writing of the Sotho languages led to Sesotho words generally being much shorter than isiZulu words. Even some language forms that are clearly morphemes are written disjunctively (thus as words) in Sesotho, for instance the subject morpheme *o-* of the second person singular.

This does not mean that the Sotho orthography is wrong, and the Nguni orthography is right or *vice versa*. In both Sesotho and isiZulu there are some anomalies. These discrepancies between what is written orthographically as a word and what is linguistically a word has led to a distinction between 'orthographic' and 'linguistic' words.

While it would be ideal to regularise the writing systems of these languages, the use of the two orthographic conventions over many years has made it practically impossible to change the orthographic conventions at this stage. We simply have to accept the inconsistencies that exist in both orthographic systems. Bear in mind that inconsistencies in orthographies are not uncommon across languages. Sesotho and isiZulu are thus not unique in this regard.

Factors influencing the level of difficulty in learning to read

There are six factors that can influence the level of difficulty to learn to read in Sesotho and isiZulu:

- the transparency or opaqueness of the orthography
- the length of words
- the complexity of the syllable structure
- the complexity of the morphological and syntactic structure
- the level of development and how strongly conventionalised the vocabulary is
- the convention of not marking suprasegmental qualities in the orthography.

Transparent and Opaque orthographies

Languages differ in terms of how 'transparent' or 'opaque' their writing systems are. An orthography where a single speech sound is represented using different graphemes or different speech sound are represented by the same grapheme is called an opaque orthography, such as in English and French. Such a coding system is more difficult to master. The ideal would be to have a writing system where there is a one-to-one relationship between speech sounds and the graphemes that represent them. An orthography that tends to be closer to such an ideal system is called a transparent orthography.

While the orthographies of Sesotho and isiZulu are transparent that of English is opaque. Consider in this regard the earlier reference to the /f/ sound in English that may be represented by **f**, **ph** or **gh**. Consider, on the other hand, the fact that the /f/ sound of Sesotho and isiZulu is always represented by **f** as in the Sesotho verb stem *-lefa* and the isiZulu noun *"ifa"*.

Word Length

Many scholars have pointed out that word length is one of the factors that affects the readability of a language. Words in the African languages, especially in the Nguni languages, tend to be quite long and that makes it more challenging for the beginner readers to read in these languages. There are for instance very few monosyllabic words in isiZulu.

A beginner reader of isiZulu will be able to read short isiZulu words such as "ifa" ('inheritance'), "ugu" ('side/bank/shore of sea/river') or "uthi" ('stick') easily but longer words such as "umantsingeyana" ('night adder snake') or "ubhekeyahlulwayo" ('a person who observes the one who is beaten/ a person who sits on the fence') become more difficult for beginner readers to read.

Sesotho and isiZulu furthermore have an abundance of compound words. Compounds are also long and morphologically/syntactically complex, having been formed by compounding two or more words. Such long words are more difficult for beginner readers to read because of their length. Consider for instance the following examples: "inkominophondo" (< inkomo#i#na#uphondo) ('a cow it has a horn - an abrasive person'), "izinhlohlamakhwelo" (< izin#hlohla#amakhwelo) ('the ones that ram/push whistles - whirligig beetles') also known as "imfundamakhwelo" (< im#funda#amakhwelo), "inhlekabafazi" (< in#hleka#abafazi) ('the one that laughs at the women - redbilled woodhoopoe') and ugobelakwesakhe (< u#gobela#kwa#e#sa#khe) ('the one that bends (things) towards his/her side - a selfish person').

Complexity of the syllable structure of the language

The complexity of the syllable structure can also contribute to the difficulty level of reading in a particular language. There are two aspects of syllabic structure that have an influence on the difficulty level of reading. The first is the difficulty in determining the syllable boundary in words, while the second is the number of letters in the syllable, thus the syllable length.

Determining the syllable boundaries in words in Sesotho and isiZulu is relatively easy and does not pose much of a challenge. A vowel always signals the end of a syllable. Consider the examples /lo/na/, /i/si/to/fu/ and /ba/sa/zo/fi/ka/. The only isiZulu consonant that can be syllabic under certain conditions is the /m/, as in /u/m/ntwa/na/. In Sesotho, the /l/ and /m/ may be syllabic, as in /m/m/e/ and /l/la/.

The length of the syllable also has an influence on the difficulty level of reading. The long syllables in the African languages are due to the occurrence of consonant sequences in a syllable and that also contributes to making early reading more challenging in Sesotho and isiZulu. Consider for instance these syllables in the Sesotho, /mo/**kga**/tla/ ('clothing made of skin'), /**kha**/tla/pe/tso/ ('arbitrary'), /**ntshwe**/kge/ ('run like lightning') and /bo/**nkgo**/kgo/ 'sorcerer' and the isiZulu examples, /u/**ngco**/yi/**ngco**/yi/ 'sweet, delicious food', /u/**nhlwe**/nge/ni/ ('long carved staff used by old men'), /i/**ngcwe**/phe/shi/ ('expert'), and /i/**ngqwe**/le/ ('principal herd boy/bully'). Learners need to recognise the consonant sequences such as -kg-, -kh-, -ntshw-, -ngk-, -ngc- and -nhlw- as single phonemes instead of decoding the consonants individually.

Complexity of the morphological structure of words

The fact that the African languages are agglutinating languages with a very productive morphology also contributes to words being morphologically complex and very long. This is especially true for the Nguni languages and isiZulu in particular because of the use of the conjunctive orthography. The meaning of words can be modified or extended by affixing (adding) substitution, deletion or reduplication of morphemes.

The morphological analyses used here follows a word-based approach to morphology as described by Posthumus (1994). The word-based approach is the most appropriate morphological approach for the African languages.

The morphological processes applied to the word are affixing (which is the umbrella term for prefixing, infixing and suffixing), morphological substitution, deletion and reduplication. Within the word-based approach the starting point of morphological analysis is the word (and not the root).

Consider how the form and meaning of the word "sifunda" is altered in the examples below by the addition of morphemes.

Sifunda isiZulu 'We learn isiZulu'

Sifundisa isiZulu 'We let learn/teach isiZulu'

Sisafundisa isiZulu 'We still let learn/teach isiZulu'

Sisazofundisa isiZulu 'We will still let learn/teach isiZulu'

Sisazofundisana isiZulu 'We will still let learn/teach each other isiZulu'

Asisazukufundisana isiZulu 'We will no longer let learn/teach each other isiZulu'.

In the examples above the structure and the meaning of the verb "sifunda" has ultimately been extended to "asisazukufundisana" (< a-si-sa-zuku-fund-is-an-a). Various the morphemes have been added to the original form (sifunda) to modify and extend the meaning of the word. The result is that this word is now quite long and morphologically complex and relatively difficult to read (and comprehend).

The beginner reader finds it difficult to read such long words and that is borne out by eye movement studies that show that there is more regression in the eye movement when readers read such long words. (See Van Rooy and Pretorius 2015; Land 2015, 2016.)

Consider the morphological complexity of the first word in the sentence below:

"**Ngisayombambisa** (< ngi-sa-yo-m-bamb-is-a) inkukhu."

('I still will her catch assist the chicken / I am still going to help her catch the chicken.')

The single word "ngisayombambisa" comprising seven morphemes is translated into English using ten separate words, only one of which has two morphemes, namely (go+ing). Such long words make it difficult for beginner readers to read (and comprehend) text in the African languages.

Although complex syntactic structures also pose a challenge for reading in the African languages, these challenges relate to comprehension rather than word decoding and will therefore not be discussed here. The example below illustrates the syntactic complexity of the word order and agreement marking in the so-called indirect relative of isiZulu.

"Umfana abamthumele incwadi abazali uyagula."

(‘The boy, they him send (past) a letter the parents, is ill / The boy to whom the parents sent a letter, is ill.’)

The level of development and the conventionalisation of the vocabulary

The better the vocabulary of a language is developed and conventionalised in a particular field, the easier it is to talk or write about a topic in that field. While English vocabulary is well-developed in terms of both width and depth as far as scientific language usage is concerned, that is not the case for the African languages. The lack of appropriate vocabulary or the fact that especially some scientific terms are not well-known to the majority of speakers of the language makes it difficult to talk, write and read on such topics in Sesotho and isiZulu. Vocabulary development is therefore of paramount importance. (There are various initiatives to build up lists of scientific vocabularies for African languages.)

The convention of not marking suprasegmental qualities in the orthography

Sesotho and isiZulu do not use diacritic signs to mark the suprasegmental qualities that operate on the word and sentence level in these languages. The suprasegmental qualities are tone, vowel length, pitch and intonation. Vowel length or the tone on the vowel is often the only quality that marks the difference between two language forms and thus two different meanings of the same word or sentence.

The simple question, "Usebenza lapha?" is ambiguous when used in isolation. It may mean, ‘Do you work here?’ or ‘Does he/she work here?’ depending on the tone on the subject morpheme **u-** and the context in which it is used. If the subject morpheme **u-** is pronounced with low tone, thus “**Ū**sebenza lapha?”, the meaning is ‘Do you work here?’ If the subject morpheme **u-** is pronounced with high tone, thus “**Ū**sebenza lapha?,” the meaning is ‘Does he/she work here?’

Because of the absence of diacritic signs in the orthography to signal these qualities, this sentence may be ambiguous in its written form if it is used without a pronoun to disambiguate it and such a sentence will thus pose a challenge to the beginner reader.

Imagine the potential confusion that may result if a bookstore manager writes the note, "Ingathengiswa le ncwadi" as a note to his salesperson sticking the note onto a particular book. The salesperson may read the note as "Ingathengiswa (> ingàthegiswa) le ncwadi" (‘This book may be sold’) instead of "Ingathengiswa (> ingàthegiswa) le ncwadi" (‘This book may not be sold’). When the reader reads this sentence, she or he must decide concerning the tone on the morpheme -nga- but in written form that decision can only be made if there is a context that

supplies decisive cues. If the vowel /a/ of -nga- is pronounced with low tone the morpheme -ngà- is an aspectual morpheme denoting the meaning 'may', however, if this morpheme is pronounced with high tone, thus as -ngá- this morpheme is a negative morpheme of the subjunctive mood denoting the meaning of 'not'. (These two morphemes incidentally occupy the same position in the word and hence this ambiguity.)

Vowel length is also not marked in the orthography.

The verb "basebenza" in the sentence "Basebenza esitolo" may mean, 'They worked in the shop (long ago)' or 'They are working/work in the shop' depending on the presence or absence of length on the vowel of the subject morpheme ba-. If the vowel /a/ of ba- in the example sentence above is pronounced without length, the meaning is 'They work/are working in the shop'. However, if the vowel /a/ of ba- is pronounced with length, thus as "ba:sebenza", the meaning is 'They worked in the shop (long ago)'. Again, the context may provide cues to determine the tense of the verb and hence the appropriate pronunciation. The cue may for instance be in the form of an adverb denoting past time, which will then necessitate articulating the vowel of the subject morpheme with length to mark the remote past tense. It may also be a preceding sentence denoting the events as past events. In instances where the neighbouring context signals the appropriate tense of the verb it means that the reader has to find the cue first before determining the correct pronunciation of the subject morpheme in the verb. The default position of the adverb is after the verb, therefore in order to pronounce the verb appropriately the temporal (time) reference portrayed by the adverb has to be established in order to determine whether there should be length on the vowel of the subject morpheme. Readers thus have to "read ahead" before they can decide on the correct pronunciation of the verb, and that complicates the reading process.

In yet other instances the length of the pause between words and the tone height of the final vowel of one word and the initial vowel of the following word in a sentence may bring about a difference in meaning.

Consider the example, "Abafana abagulayo nodokotela basesibhedlela." If this sentence is pronounced with a long pause between "abafana" and "abagulayo" and the tone height of the first vowel /a/ of "abagulayo" is substantially higher than that of the final vowel of the noun "abafana", the meaning of this sentence will be, 'The boys, those who are ill, and the doctor are at the hospital'. (In this case, reference is made to three separate subjects, namely the boys, the sick people and the doctor.) However, if the pause between "abafana" and "abagulayo" is short and the tone height on the two /a/ vowels (referred to above) are more or less on the same pitch the meaning of this sentence will be, 'The boys who are ill and the doctor are at the hospital'. (In this case reference is made to two subjects, namely the sick boys and the doctor.)

The reader has to decide on the appropriate intonation pattern in order to deduce the relevant meaning of the text in such instances and the cues may be in the neighbouring text. This obviously complicates the reading process.

From the preceding discussion it is quite clear that the absence of diacritic signs in the orthography of Sesotho and isiZulu poses challenges for the beginner reader in these languages.

Towards decoding alphabetic texts

Learning to read means having to move beyond phonological awareness of the individual sounds in speech to being able to recognise those same sounds encoded in a written text that uses the twenty six letters of the alphabet.

This unit has clearly indicated that there are complications in this encoding of speech sounds into the squiggles of print and that the teacher of reading has to be conscious of these complications caused by the inherent language characteristics and the particular orthography chosen and developed to represent the language in writing.

Unit 5: Self test questions

1. Which of these sentences are written in a disjunctive orthography and a which a conjunctive one?

He wrote a letter to apply for the job. _____

Wabhala incwadi yesicelo somsebenzi. _____

O ile a ngola lengolo la kōpo ea mosebetsi. _____

2. What is the difference between an “opaque” and a “transparent” orthography?

3. When in an Nguni language two vowels appear next to each other in a word you may find: vowel _____, semi-vowel _____, replacement by a _____, or vowel _____.

4. List six factors that can influence the level of difficulty in learning to read in a particular language:

- _____
- _____
- _____
- _____
- _____
- _____

5. Are these Sesotho or isiZulu consonant letter sequences – kh, kg, ntshw, nhlw, ngc – single phonemes or a sequence of consonant phonemes?

6. Explain how you would teach about tonal and length differences in vowel sounds that are not shown in the actual orthography of the letters (graphemes).

6. Alphabetic knowledge

Preschool children’s alphabetic knowledge is a critical foundational skill of early literacy acquisition for alphabetic languages and is recognized as perhaps the most robust predictor of future decoding ability and reading in the early grades (Torppa *et al.*, 2006).

Preliminary reading

Language and literacy, Unit 7. The Alphabet and orthography (pp. 25-30)
Unit 8. Decoding – letter-name knowledge (pp. 31-34)
Unit 9. Decoding – letter-sound knowledge (pp. 35-40)

Knowledge of letter-names and letter-sounds

In order to read, learners have to acquire knowledge of the alphabet and all its letters. Developing this alphabetic knowledge entails two things, namely:

- letter-name knowledge, and
- letter-sound knowledge.

Letter-name knowledge refers to knowing the names of the letters of the alphabet as labels. This means that a learner must for instance know that (in English) the letter **a** is called “ay” and that the letter **l** is called “el” and the letter **g** is called “gee”.

Letter-sound knowledge, entails knowing the sound or sounds that are represented by a particular letter of the alphabet. The learner learning to read in English has to know for instance that the letter **n** represents the sound ‘en’, the letter **c** may represent the sound ‘ce’ as in “centre” or the sound ‘k’ as in “cake”.

Although there are only 26 letters in the standard alphabet used for instance to write English, Afrikaans, and African languages, these letters have to somehow represent all the distinctive speech sounds (i.e. phonemes) of these languages.

In English letter-name knowledge is less complex than letter-sound knowledge simply because there are 26 letters in the alphabet. But these letters have to represent the 44 distinctive letter-sounds of English.

In some instances, different letters or letter combinations may represent the same sound as in the case of the English ‘f’ sound that may be represented by the letter **f** (in “fish”), the letters **ph** (in “physics”) or the letters **gh** (in “tough”).

Similarly, in the African languages, a single letter may represent more than one sound (as in the case of the letter **b** which may represent an **egressive** sound in the stem -bamba (‘catch’) or **ingressive** as in the stem -baba (‘be bitter’).

In yet other instances a combination of letters may represent a single sound as in the case of the letters **th** representing the **aspirated** sound [t^h] as in the stem -thatha (‘take’) or the letters **tsh** representing the sound [tʃ] in the word “itshe” (‘rock/stone’).



Sesotho and IsiZulu Reading Project

Study guide 2:

Language and Literacy

Primary Teacher Education project
Department of Higher Education and Training

egressive: speech sound made with an outward flow of air from the lungs (as in mouth speech sounds)

ingressive: speech sound made by pulling air into the mouth (as when making click sounds)

aspirated: with an audible breath at the end of a **plosive** sound

plosive: a sound in which the flow of air is completely blocked

The importance of letter-name knowledge

The relationship between preschool children's knowledge of the names of the letters and their future success in learning to read has been a topic of debate for some time.

Some scholars (such as Adams, 1990; Durrell, 1980; Gibson and Levin, 1975) maintain that the assumption that letter-name knowledge in English is a strong predictor of preschool children's future ability to learn to read is both speculative and controversial.

Ehri (1986) points out that the ability to recognize, distinguish, and recall the form and orientation of visually confusable letter-symbols is quite an achievement for preschool children. She furthermore asserts that letter-name knowledge may provide an index of the extent to which a child has mastered this perceptual learning task.

Treiman *et al.* (2006) also highlight the fact that learners' ability to identify the letters of the alphabet by name is one of the best predictors of how readily they will learn to read. Snow *et al.* (1998) assert that preschool letter identification is almost as successful at predicting later reading skills as an entire reading readiness test.

Foulin (2005, p. 129) points out that children have to become acquainted with the various identities of each letter, namely its graphic shapes in both upper-case and lower-case forms, its name, and its sound (or sounds) and that letter recognition has been shown to be an important founding skill of early literacy development. Apart from being a strong preschool predictor of (later) school reading achievement letter-name knowledge has an influence on early literacy acquisition on three levels, namely on the (1) emergence of phonological processing of print, (2) acquisition of letter-sound knowledge, and (3) development of **phonological awareness** skills.

Share *et al.* (1984) conclude that letter-name knowledge (as one of 39 variables such as IQ, vocabulary, socio-economic status, etc. influencing reading development) is the best individual predictor after **phoneme segmentation**, of first grade reading achievement. In a later publication Share (2004), reiterates the finding that there is a significant correlation between preschool children's knowledge of the names of the letters of the alphabet and their future success in learning to read.

Letter knowledge is required for phoneme awareness skills to develop. Indeed, a predictive reciprocal relationship exists between early letter-name knowledge and phonemic awareness skills. Badian (1995) found that letter-name knowledge is the most important preschool contributor to First grade **phonemic awareness**.

Most of the published research done on the role of letter-name knowledge focuses on English, where some letter-names and letter-sounds differ quite substantially. Most scholars are nevertheless in favour of learning the letter-names even though the letter-names and the sounds the letters represent may deviate from the **acrophonic principle** in some cases.

Those against teaching the names of the letters cite the instances where the letter-names actually mislead the young learners if they associate the letter name

phonological

awareness: an individual's awareness of the phonological structure, or sound structure, of words. Phonological awareness involves the detection and manipulation of sounds at various levels of sound structure. Phonological awareness is a broad term that includes Phonemic awareness.

phonemic awareness:

the awareness that enables a listener to hear and identify the separate sounds (phonemes) in a stream of speech (e.g. in English to identify the same sound in 'bad', 'sad', 'glad' and 'mad', and to distinguish between the sounds in 'bed', 'bad', 'bud', and 'bid'). Phonemic awareness relates only to speech sounds, not to alphabet letters or sound-spellings. [But, because phonemes are the units of sound that are represented by the letters of an alphabet, an awareness of phonemes is key to understanding the logic of the alphabetic principle and thus to the learnability of phonics and spelling.

phoneme segmentation:

the activity of saying separately each of the sounds in a word.

acrophonic principle:

the naming of letters of an alphabetic writing system so that a letter's name always begins with the letter itself.

with the letter sound (for instance the names “double-yoo” and “zed”). Those in favour of teaching the names of the letters argue that many of the English letter-names correspond with the letter-sound or partially agree with the letter sound (e.g., “bee”, “dee” and “el/ell”). The high number of instances where letter-names correlate with letter-sounds in English outweighs the draw-backs which result from letter-names that differ from the letter-sounds of those letters.

Recent empirical research reveals that those learners who start Grade 1 with a knowledge of the letter-names perform better when learning to read than those that do not have this knowledge at the outset (Foulin 2005; Evans *et al.* 2006; Treiman, *et al.* 2006; Manolitsis and Tafa 2011; Reutzel 2015).

The relationship between preschool letter-name knowledge and reading achievement might be mediated by letter-sound knowledge which is a determinant skill for achieving alphabetic literacy. Knowing the letter-names may also imply knowing the letter form and/or being able to identify the sound represented by the particular letter in a word. (In other words, a learner who knows the letter-names may have a better phonological awareness than the learner who does not have this knowledge.)

It is a fact that the learner who knows the letter-names has an advantage over the learner who does not have this knowledge at the start of Grade 1. This implies that the letter names should be taught in Grade R (or at preschool level).

Because learning to read is such a huge task for the child, teaching letter-names while teaching reading is probably not ideal.

Knowing the letter-names and their sequence is important later in life as well (*inter alia* for the purposes of teaching spelling, discussing literacy, teaching language and being able to alphabetise).

Letter-names in the African languages

Yalukanda (2020, p. 1) states the following on the value of letter-name knowledge in the target language for teaching early reading in CiNyanya language in Zimbabwe:

“Zambian teachers lacked adequate information about this core knowledge for instructing reading in their transparent Zambian Bantu languages. The typical error has been caused by using letter-names of English, which fail to cue the sounds of the letters of Zambian Bantu languages such as; CiNyanja, one of the languages of initial literacy in Zambia. Ojanen *et al.* (2009) noted that Lusaka primary school children experienced difficulties in mapping letters to sounds in their fully consistently written Bantu languages and consequently failed to acquire the basic reading skills in the first grade in school.”

Consider the letter-names in isiZulu and Sesotho. Although the letter-names may not be quite conventionalised in the true sense of the word, there are names for the letters of the alphabet and teachers use them when they teach. A teacher will not say to the child, “Hhayi-bo, ubhale uphawu lokubhala olumele umsindo u-gee, kunokuthi ubhale uphawu lokubhala olumele umsindo u-aitch.” (“Oh no, you have written the letter that stands for the sound gee instead of the letter that stands for

the letter aitch.’) What she does say is “Hhayi-bo ubhale u-g kunokuthi ubhale u-h.” ‘Oh no, you have written a g instead of a h.’ (She will use the isiZulu letter-sounds as letter-names and not the English letter-names ‘gee’ and ‘aitch’.)

The African languages are characterised by a transparent orthography. The letter-names correlate nearly perfectly with the letter-sounds – there is a near perfect one-to-one correlation between the letter-sound and the letter-name. There are really very few instances where a letter may represent more than one sound or different letters represent a single sound in isiZulu or Sesotho.

Learning the letter-names entails linking the letter with the basic speech sound it represents in writing.

You may argue that “it is a waste of time to teach the children the names of the letters in isiZulu” but remember there are only 26 letters with names that the child has to associate with well-known speech sounds from their language. You may also argue that children will have to learn the letter-names of English anyway (where a large portion of them represent different sounds from that which they present in isiZulu). Is that such a challenge though? Are we really expecting too much or overburdening the Zulu or Sotho children if we teach them the 26 isiZulu or Sesotho letter-names? Knowing the letter-names in isiZulu or Sesotho gives the children a head-start when they start learning the relationship between the letters and the sounds they represent because of the strong correlation between the letter-names and the sounds they represent in the particular language. (In transparent languages, such as isiZulu and Sesotho the benefits of knowing letter-names (in the language of instruction in the classroom) far outweighs the possible objections.)

However, to be really beneficial for learning to read, the isiZulu or Sesotho letter-names should be taught early in Grade R and/or at the preschool level.

Note that the click sounds in the Nguni languages should be named according to the sounds they represent instead of the English names “cee”, “que” and “ex”.

The argument that it is superfluous for the African language speaking children to learn the letter-names in their home language is flawed because when these children start learning English, they will have to learn the English names for just about all known and new objects and concepts anyway. Learning the English letter-names will thus entail associating the already known 26 letters of the alphabet with their English labels. This will entail learning far less than 26 new lexical items because most of these English names will (closely) resemble the isiZulu sounds and letter-names anyway.

Letter-names and letter-sounds

Knowing the names of the letters, partly depends on the ability to isolate phonemes in spoken words. There is an advantage in knowing the names of letters when it comes to learning letter-sound correspondences especially if the names of the letters correspond closely with the sound the letter represents.

Studies demonstrate that letter-names provide more than just verbal labels, they supply convenient labels that uniquely identify the individual letters and that is important for the child’s understanding of the language of literacy. These labels

also fulfil an essential associative meaning function – that is, they enable us to associate other things with it, such as the sound that can be associated with it, and also enable us to distinguish the critical from the non-critical features of letters, which come in all shapes and sizes. These considerations point to the value of knowing the names of the letters apart from knowing which sound they represent.

Ideally, letter-names should include the corresponding letter-sound or at least the most common sound the letter represents (in cases where a letter represents more than one sound). Helping children recognize the connections between letter-names and letter-sounds may give them an advantage and serve as a bridge between their knowledge of sounds and manipulating the written word.

Research over several decades on letter-name knowledge has consistently pointed out that if this knowledge is gained at preschool age, it is a reliable predictor of learning to read (viewed by some scholars as the best single predictor or learning to read at the start of teaching reading). Still, relatively little attention is given to this aspect in South African schools. Up to school entry level, letter-name knowledge is generally more developed and more diverse than letter-sound knowledge. By the time children's letter-name knowledge level reaches a ceiling, developing letter-sound knowledge becomes the strongest predictor of reading achievement.

Regardless of what approach to initial reading instruction is used, there are good pedagogical reasons to help children to acquire letter-names before they are confronted with grapheme–phoneme correspondences, and further to draw their attention to the phonological linkage between letter names and letter sounds.

The use of letter-names in reading and spelling suggest that letter-name knowledge allows children to bridge the gap from visual-cue strategy to phonetic-cue strategy in early literacy, laying the foundation for formal literacy. As a phonologically-based strategy, letter-name cue reading, and spelling might foster the further development of alphabetic skills based on letter-sound correspondences.

Letter-sound knowledge

Letter-sound knowledge is a critical foundational skill of early literacy acquisition and serves as the basis for word reading (Muter and Diethelm, 2001). Beginner readers use their letter-sound knowledge to sound out words when they start reading. Through letter-sound knowledge children develop an awareness of individual sounds within words (Ziegler and Goswami, 2005). This knowledge is related to phonological awareness, especially at the phonemic level, which has been found to be important in learning to read across alphabetic languages.

Learning letter-sound relationships develops children's awareness of individual sounds within words and is a crucial skill for children to sound out words when learning to read. Conversely, an inability to grasp the letter-sound principle, negatively affects the development of decoding (Nieto, 2005). Ouelette *et al.* (2013) point out that because of its strong link with early reading instruction, alphabetic knowledge seems to have a narrow developmental window. Introducing alphabetic knowledge too early with preschool children may lead to **floor effects** while introducing it too late may lead to a **ceiling effect**.

floor effect: in assessment when most of the people being tested score very low with little variance between the scores (as for example if all the questions are too hard)

ceiling effect: in assessment when most of the people being tested score very high with little variance between the scores (as for example if all the questions are too easy)

However, due to the slow rate of reading development and the low literacy levels in developing countries, assessing alphabetic knowledge with older learners may help to distinguish readers from non-readers who have not yet grasped the relationship between print and sound. Spaul, Pretorius and Mohohlwane (2020, p. 5) refer to this knowledge and its relation to phonemic awareness, asserting that,

“Letter-sound knowledge is also related to phonological awareness, especially at the phonemic level, which has been found to be important in learning to read across alphabetic languages. When children learn letter-sound relationships, they develop an awareness of individual sounds within words.”

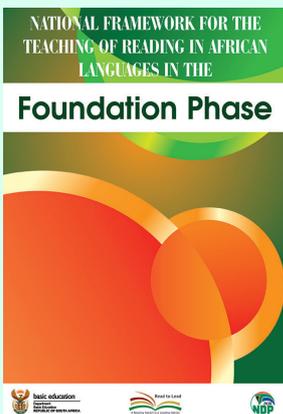
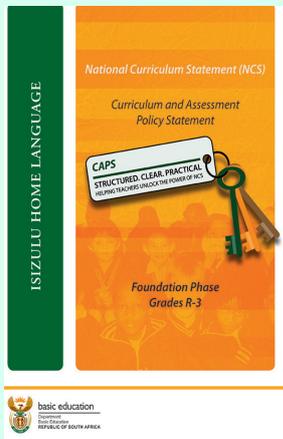
Local research undertaken by O’Carroll (2011) show interesting results in terms of the significance of early Grade 1 letter knowledge and end of Grade 1 word reading and spelling skills in a low socio-economic setting. Her initial research conducted with a sample of learners from two disadvantaged communities in Cape Town entering Grade 1 found that nearly half of those learners could not recognise any letters. In a subsequent Grade R intervention, learners in this context were subjected to a programme teaching them letter-names and letter-sounds as a means of developing language skills, emergent writing and concepts about print. One of the intervention groups was assessed at the end of Grade 1, showing significant correlation between early Grade 1 letter-sound knowledge and end of Grade 1 word reading and spelling skills.

Research done in South African schools show that children have a low letter-sound knowledge. The majority children in early grades cannot identify at least 40 letters correct per minute (Spaull *et al*, 2020). This leads to poor word reading. It is imperative that learners should be able to associate the letters of the alphabet quickly and accurately with the speech sounds they represent, otherwise they will not be able to read.

Classroom research in South Africa suggests that teachers often spend a lot of time getting children to chant letter sounds (a, e, i, o, u) and simple syllables (ba, be, bu, bo, bi), however, this does not lead to reading. The success of teaching letter-sound knowledge is not at all about spending a lot of time on reciting letters and syllables. In spite of this time spent on reciting, many learners can hardly identify 20 letters correct per minute (lcpm) while an alarmingly high percentage of learners cannot identify a single letter by the end of Grade 1. Research done as part of a Zenex project found that by the end of Grade 1, up to 56% of the learners in the participating **control** schools in KwaZulu-Natal failed completely in letter-sound knowledge.

If learners are taught letter-sound knowledge properly and systematically, they can achieve the desired benchmark. The *Curriculum and Assessment Policy Statement* (CAPS) guidelines (Department of Basic Education, 2011) suggest 15 minutes per day to be spent on activities including letter-sound knowledge in the first three grades. The *National Framework for the teaching of reading in African Languages in the Foundation Phase* also has advice on the teaching of letter sounds (2020, pp. 33-34).

control: when conducting an educational experiment (e.g. trying out a new method of teaching) there is an experimental group (on which the new method is used and which is tested to check whether the change has benefits) and a control group (which continues unaltered without the new method and which is also tested).



The relationship between speech sounds and the letters that represent them

Letter-sound knowledge has to do with the relationship between **letters** and **sounds**.

Letter-sound knowledge is the combination of phonology (sounds in speech; phonemes) and orthography (spelling patterns; graphemes). Letter-sound knowledge is a critical foundational skill of early literacy acquisition and serves as the basis for word reading.

Through letter-sound knowledge children develop an awareness of individual sounds within written words and as beginner readers use that letter-sound knowledge to sound out words when they start reading.

Letter-sound knowledge is also related to phonological awareness, especially at the phonemic level, which has been found to be important in learning to read across alphabetic languages. When children learn letter-sound relationships, they develop an awareness of individual sounds within words.

One of the factors that makes reading challenging is the fact that most languages have far more speech sounds (phonemes) than the 26 letters of the alphabet that represent them. Even though there are instances of one letter representing one sound there is no absolute one-to-one relation between the speech sounds and the graphemes that represent them in writing. English, for instance has 44 sound units (phonemes) while Sesotho and isiZulu have even more. The application of the writing system (with this inherent shortcoming) leads to the following:

- (1) one letter may represent one sound,
- (2) one letter may represent different sounds,
- (3) a combination of letters may represent a single sound, or
- (4) different letters may represent the same sound.

Each of these are briefly described and illustrated below:

One letter representing one sound	These are letters that always represent only one speech sound. For example in isiZulu the letter <i>a</i> always represents the low central vowel /a/ as in the word “ <i>amandla</i> ”. The letter <i>f</i> represents the sound /f/ as in “ <i>-funda</i> ”. So too the letter <i>l</i> always represents the sound /l/ as in the word “ <i>ilala</i> ”. Similarly the letter <i>x</i> in the orthography represents the lateral click /k / as in the word “ <i>ixoxo</i> ”.and the letter <i>q</i> represents the sound /k!/ as in the stem “ <i>-qeda</i> ”.
-----------------------------------	--

letter: a symbol usually written or printed representing a speech sound and constituting a unit of an alphabet

grapheme: a written symbol that represents a sound (phoneme). This can be a single letter, or could be a sequence of letters, such as *ai, sh, ow, igh, tch, ough*, etc. in English.

<p>One letter representing different speech sound</p>	<p>Instances of different sounds being represented by a single letter occur commonly in English (which is why its spelling is so tricky!) but are rather subtle in the case of Sesotho and isiZulu.</p> <p>The grapheme <i>e</i> of isiZulu represents the two mid vowel /e/ sounds in the words “<i>isela</i>” [ɛ] and “<i>leli</i>” [e]. Even though these two vowels differ slightly in their pronunciation they are written using the same grapheme. The vowel [e] in the word “<i>leli</i>” is called a raised high-mid vowel. It is pronounced higher because of the influence of the high vowel [i] in the syllable following the /e/.</p> <p>The pronunciation of the sound represented by the grapheme <i>k</i> of isiZulu may also differ slightly. Consider the pronunciation of the /k/ sounds in the words “<i>ikathi</i>” and “<i>ukulala</i>”. The /k/ in “<i>ikathi</i>” is pronounced as an ejective sound thus [kʰ], while in the word “<i>ukulala</i>” it is pronounced as [k̤] sounding more like a [g̊]. These sounds nevertheless form a single phoneme /k/. Another example is the /b/ sound in the stems “-bika” (‘report’) and “-baba” (‘bitter’). The <i>b</i> sound in “-bika” (‘report’) is an egressive sound while the <i>b</i> sound in “-baba” (‘bitter’) is ingressive. These two sounds do not constitute different phonemes though.</p> <p>However, the two <i>m</i> sounds in the words “<i>imithi</i>” (‘medicines’) and “<i>mina</i>” (‘here, take it’) comprise two different phonemes. The /m/ in for instance “<i>imithi</i>” is represented by the phoneme /m/. The <i>m</i> sound in the word “<i>mina</i>” (‘here, take it’) is pronounced with breathy voice and is a separate phoneme, namely /mh/.</p>
<p>A combination of letters representing one speech sound</p>	<p>The speech sound [tʰ] of isiZulu is represented by two letters, namely <i>h</i> and <i>l</i> as in the word “<i>isihlahla</i>”. These two letters together thus represent a single speech sound.</p> <p>The same is true for the speech sound [dʒ] of isiZulu in the word “<i>badlala</i>” which is represented by the two letters <i>d</i> and <i>l</i>. Consider also the use of the letter <i>h</i> after a consonant to indicate aspiration as in these: <i>bh</i>, <i>kh</i>, <i>ph</i>, <i>th</i>, <i>ch</i>, <i>qh</i>, and <i>xh</i>.</p> <p>Another example is the letters <i>ts</i> representing the sound [tʰ] in the word “<i>itshe</i>”.</p> <p>In English there are many cases of different letters or letter combinations representing the same sound, as in the case of the <i>f</i> sound that may be represented by the letter <i>f</i> (in “<i>fish</i>”), the letters <i>ph</i> (in “<i>physics</i>”) or the letters <i>gh</i> (in “<i>tough</i>”).</p>

aspiration: an audible breath that accompanies or comprises a speech sound

Different letters or combinations of different letters representing the same speech sound	As an example of this is the way the /f/ sound is represented in the English words “fish”, “physics” and “tough”. In these instances the same sound is represented in three different ways in the orthography, namely by <i>f</i> , <i>ph</i> and <i>gh</i> . Sesotho and isiZulu do not have instances of different letters representing the same speech sound.
---	---

When written languages are characterised by a high incidence of one-to-one grapheme-phoneme correspondences, they are said to have a transparent (or shallow) orthography and if there are several instances of many-to-one or one-to-many mappings, such languages are said to have an opaque (or deep) orthography.

Sesotho and isiZulu both have transparent orthographies while English has an opaque orthography. Leaving aside other characteristics of languages, research has shown that it is easier to master reading in a language that has a transparent orthography as opposed to a language with an opaque orthography such as English. (See for instance Aro and Wimmer (2003) and Seymour *et al.* (2003) for a discussion on the differences between mastering a transparent or an opaque orthography.)

Teaching letter-sound knowledge

This is normally done sequentially, with the sounds of the letters most commonly used in the texts children will read first. One begins with letter-sound correspondences that can be combined to make words that the learners can read and understand. Curriculum guides and workbooks will often specify a suggested sequence.

These sound-letter links should be taught explicitly and systematically. Most letter-sound correspondences can be taught in the space of a few months at the start of Grade 1. This means that the children can read many of the unfamiliar words they meet in text for themselves, without the assistance of the teacher.

Assessing alphabetic knowledge

Letter-name knowledge can be assessed by asking the learners to say the names of the letters of the alphabet in sequence.

Appropriate letter-sound assessment involves asking children the question, “What sound does the letter /e/, /d/, /s/ ... make?” while showing them the upper-case and lower-case versions of a letter, for instance an S s or M m from a chart of letters. In this case the learners ‘see and say’. This type of assessment is more suitable for a one-on-one testing.

Alternatively, the learners may be asked to, “Write down the letter for the /a/, /b/, /c/ ... sound”. In this case the children ‘hear and write’. This type of assessment is suitable for testing individual learners or a group.

Towards decoding

Sesotho and isiZulu (like the other South African languages) use the alphabetic writing system, employing the 26 letters of the alphabet, to encode spoken language into written language. To read a text the reader has to decode the written text by converting the written code to spoken language. A beginner reader associates a speech sound with each letter or group of letters in sequence and in this way “sounds out” each word and then links the meanings of the words together to make sense of the sentence. This knowledge and skill should ideally develop to a level where this process happens so quickly and automatically that it occurs below the level of the conscious awareness.

Unit 6: Self test questions

1. What are the two kinds of alphabetic knowledge that have to be acquired to be able to learn to read fluently?

2. How many letter-sounds are there in English? _____

3. Do you think Sesotho and isiZulu have more or less letter sounds than English. _____

4. No English letter-names correspond with the letter-sound. True/False.

It is best to teach the letter names before teaching decoding. True/False

In African languages the letter-names correlate nearly perfectly with the letter-sound. True/False

5. Letter-sound knowledge is a combination of _____ (sounds in speech; phonemes) and _____ (spelling patters; graphemes).

6. What are the four permutations of letter-sound correspondence in a writing system? Which one is not found in African languages?

7. The stages of reading

Preliminary reading

Language and literacy, Unit 17. Simple view of reading (pp. 71-72)

Stages of Reading

Beginner readers and skilled readers read differently, and it is therefore important to distinguish between beginner readers and skilled readers for the purpose of teaching reading. Learners typically go through different stages of reading development and being aware of the different stages in the process of becoming a skilled reader helps teachers keep track of their learners' progress during the course of a school year.

Some scholars of reading have distinguished different stages of reading. These stages are characterised by certain traits of the reader at a particular stage and the developments that take place in the reader (in terms of reading).

One of the best-known models of reading stages is that of Chall (1983) (see the summary in Pretorius and Murray, 2019b, pp. 37-38) which accounts for the reading changes that occur and elaborates in a very detailed way on the qualitative changes that take place and the competencies acquired at each of the six stages from pre-school to university or professional level.

Frith's (1985) three stage model is simpler and sufficient for looking at the teaching of reading at Foundation and Intermediate levels.

Frith's Three Stages of Reading

Frith (1985) distinguishes between three main stages of reading in alphabetic writing systems. Because reading occurs along a developmental continuum, these developmental stages are not always clearly divisible.

The child learnings to read may sometimes straddle two stages and show developmental characteristics of different stages.

Frith's First Stage of Reading: The Pictorial Stage

The first of the three stages of reading is the Pictorial Stage that starts before children have had any formal teaching and they do not yet have a proper understanding of the writing system. At this stage, the child relies on oral language for communication purposes.

The child may start to recognise some letters of the alphabet. For example, the child may recognize brand names such as "KFC", "Wimpy", "Spar" and "Pick n Pay" and may perhaps recognise her or her own name and maybe a few other names. The number of words that the child can recognise in print at this stage may differ substantially from one child to another. Parents and relatives often mistake



Sesotho and IsiZulu Reading Project

Study guide 2:

Language and
Literacy

Primary Teacher Education project
Department of Higher Education and Training

this form of word recognition as reading while it is not. The child recognizes the few words the same way they recognize pictures or faces, often relying on incidental cues such as colours, font type or accompanying pictures or context. The fact that the child at this stage generally fails to “read” the name if it is presented in a different font or in small letters or all capital letters confirms that the child “reads” the name as a “picture”. This is not alphabetic reading.

Frith’s Second Stage of Reading: The Phonological Reading Pathway

The second reading stage is when the child decodes words by dividing them into phonemes and matching the graphemes with the speech sounds they represent. This stage is referred to as the Phonological Reading Pathway. Through teaching, the child now discovers that the speech sounds are represented in writing by the letters of the alphabet. The child grasps the principle of breaking a spoken word down into its constituent speech sounds and then representing each speech sound with a grapheme.

There are three important skills associated with the second stage of reading, namely:

- phonological awareness
- an understanding of the alphabetic principle
- and phonics.

Identifying and manipulating the speech sounds in spoken language, called phonological awareness, is a fundamental competency the child must achieve for alphabetic reading. The learner must be able to segment a spoken word into its constituent sounds and, on the other hand, be able to blend the individual sounds to form a word. Segmenting and blending of sounds are the two most important operations of phonological awareness.

Phonological awareness training should ideally start very early – preferably in the preschool years. There is overwhelming evidence that a child who has a high level of phonological awareness, performs better in oral language skills and performs far better when learning to read compared to a child with poor phonological awareness skills (Fricke *et al.*, 2016; Furnes and Samuelson, 2011; Spencer *et al.*, 2013.)

When starting to teach reading, the learners must be introduced to the alphabetic principle. Learners must be made aware that letters represent speech sounds as they appear in written words. They must realise that there is a conventionalised system of representing speech sounds using the letters of the alphabet.

Phonics instruction is the explicit, systematic teaching of the relationship between the letters of the alphabet and the sounds those letters represent.

Phonics instruction typically starts at the beginning of Grade 1 and should be completed by the middle to the end of Grade 2.

Frith's Third Stage of Reading: The Orthographic Pathway

The third stage of reading distinguished by Frith is the Orthographic Reading Pathway. In this reading stage the reader has developed a substantive visual **lexicon** of words of different length, usually high frequency words.

The pace of reading is now determined more by the familiarity of the word to the reader than the word length and complexity of the graphemes. The skilled reader starts to recognise and read words very fast. The reading is still slowed down when the reader encounters an unknown or less familiar word.

Most scholars believe that during this third reading stage the reader's brain develops a lexical pathway as a second reading strategy that supplements the phonological or grapheme-to-sound method typical of the preceding reading stage. Skilled readers utilize the two reading pathways in parallel when reading. The Orthographic Reading Pathway grows stronger as more and more is read, and the visual lexicon grows. It is important though for skilled readers to be able to fall back on the sound-grapheme decoding strategy when they come across an unknown word.

Some key indicators from Frith's three stage model

Even if aspects of Frith's classification of the reading stages are criticised or questioned, there are valuable indicators we can take from her work.

The first pointer is that even if young children seem to be able to read because they recognise brand names on advertising boards, shop fronts or (food) packaging, they may only be exhibiting their ability to remember a "snapshot" of such names due to particular visual cues or associations rather than being able to actually read. This ability to identify some written names should not be mistaken as a sign of the child's ability to read, they simply associate the name with certain visual cues.

The second message to take from Frith's work is that phonological awareness and phonics are essential components for beginner readers. Grainger and Ziegler (2011) are two of numerous scholars all over the world who emphasise the importance of phonological awareness and phonics for reading any alphabetic language, indicating that regardless of the alphabetic orthography to be acquired, the beginner reader essentially needs to learn to associate letters with sounds to sound out the whole word and hence gain access to its meaning.

Dehaene's (2009, p. 227) neuroscientific research findings compel him to conclude:

"Performance is best when children are, from the beginning, directly taught the mapping of letters onto speech sounds. Regardless of their social background, children who do not learn this, suffer from reading delays."

He emphasizes (p. 219), from a neurological point of view, the importance of phonics when teaching reading. He advocates explicit phonics instruction and asserts:

"The goal of reading instruction is clear. It must aim to lay down an efficient neuronal hierarchy, so that the child can recognize letters and graphemes and

lexicon: all the words in a language. A personal lexicon would be all the words that person knows.

easily turn them into speech sounds. All other aspects of the literate mind depend on this crucial step.”

Considerable research converges on the fact that grapheme-phoneme conversion radically transforms the child’s brain. This process must be taught explicitly. It does not develop spontaneously; it must be acquired.

The third message of value from Frith’s work is that the so-called whole word and whole language approaches to teaching beginner readers to read are **not** effective approaches for the African languages (or for any language for that matter).

Borleffs *et al*, (2017, p. 1618) summarise that the transition from the phonological route to the orthographic route, to reading based on word recognition, happens as follows:

"After deliberate practice and once lexical representations of words have been established in the reader’s memory, a skilled reader no longer needs to rely on phonics when coming across the same word again; reading has become a fast and highly efficient word recognition process (Sprengr-Charolles & Colé, 2003)."

It is true that a skilled reader develops the ability to read fast, accurately, and effortlessly and such a reader seems to be reading whole words rather than decoding each word, however, Dehaene (2009, p. 204) refers to this process as parallel decoding. His neuroscientific research reveals that the reader develops a skill whereby the neuronal transmissions happen simultaneously between the different regions of the brain where meaning and where pronunciation takes place. The more the learner reads, the faster decoding takes place and that in turn leads to greater automaticity. Automaticity allows the reader to free up more working memory, thus focusing more on making meaning of the text rather than on decoding individual words. It is, however, important to note that the competence of identifying and reading whole words develops through the phonological route. Moreover, even the skilled reader will still read unknown words by decoding them using his or her phonological skills.

Frith’s second and third stages of reading can be easily linked to the Simple View of Reading which was first proposed by Gough and Tunmer in 1986 and which remains one of the most supported scientific models of reading.

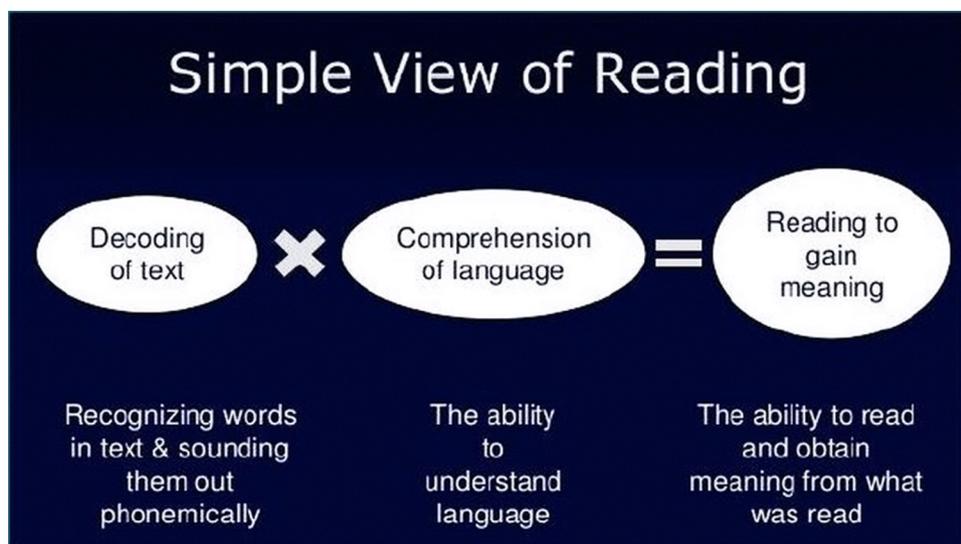
The Simple View of Reading

According to the Simple View of Reading, while reading is a very complex process, it can be represented as two interdependent processes.

A reader’s ability to understand written words depends on how well they sound out (decode) the words and comprehend the meaning of those words. Specifically, their reading comprehension can be predicted by multiplying their skill in decoding the written words by their ability to understand the meaning of those words.

It is expressed in this equation:

Decoding (D) x (Oral) Language Comprehension (LC) = Reading Comprehension (RC)



Reading comprehension (RC) depends on how well the reader can sound out (decode (D)) the words and understand the meaning of those words (language comprehension (LC)). The reader's level of reading comprehension (RC) can be estimated by multiplying their skill in decoding the written words (D) by their ability to understand the meaning of those words (LC).

The parts of the equation $D \times LC = RC$ are:

(D) Decoding: the ability of the reader to accurately sound-out or decode the written words using the principles of phonics (e.g. /k - æ - t/ = “cat”).

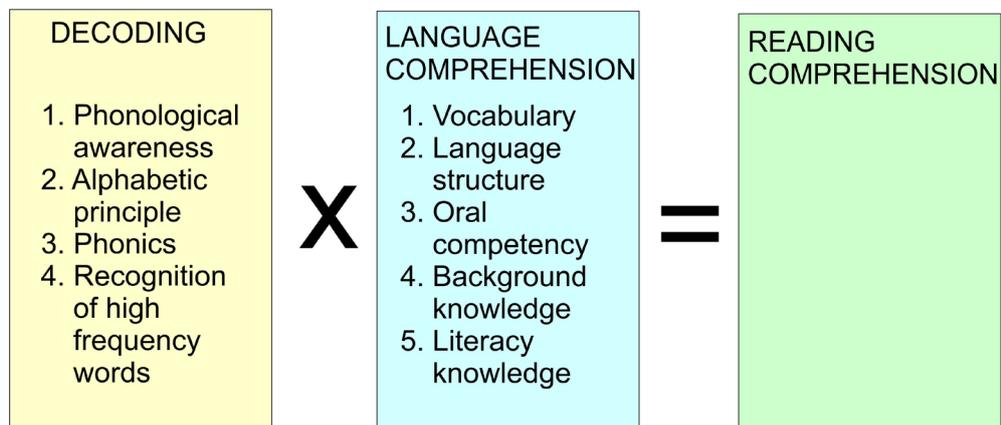
(LC) Language Comprehension: the ability of the reader to understand the meaning of the words (as if words they know had been spoken out loud).

(RC) Reading Comprehension: the ability of the reader to understand the meaning of the written words.

The relationship between D and LC will change over time as the new reader gains mastery. In the early stages Decoding has more impact, later Language Comprehension becomes a stronger predictor of Reading Comprehension (Torppa *et al.*, 2016).

The point of the formula having a multiplication sign rather than an addition sign is that reading comprehension is not achieved by adding a decoding score to a language comprehension score. If only one element is strong the weak result in the other area will significantly reduce the reading comprehension score (e.g. 25% (D) x 100% (LC) = 25% (RC)). And, if that same reader improves in that weak area, it will result in an equivalent improvement in the reading comprehension score (e.g. 50% (D) x 100% (LC) = 50% (RC)).

So if children can decode the words accurately, but do not understand the meaning of the words, they will not have reading comprehension. For example if a reader can decode the word “pandemic” but does not know what it means, he or she will not achieve reading comprehension. Similarly if readers cannot decode the words accurately, yet understand the meaning of those words in spoken language, they will not have reading comprehension. For example a reader who knows what “pandemic” means but cannot decode the written words, she or he will not achieve reading comprehension.



Reading encompasses phonological awareness, alphabetic knowledge, phonics, and the recognition of high frequency words. Linguistic comprehension comprises oral language proficiency and a grade appropriate vocabulary, an understanding of the language structure (including morphology, syntax and semantics), background knowledge and literacy knowledge (including knowledge of genres, writing conventions such as the use of punctuation, capital letters, etc., and language registers).

The relations of decoding and linguistic comprehension change during the process of learning to read. In the initial stages of learning to read the emphasis is much more on decoding since the learners need to master the written code. Initial reading amounts to associating the particular letter with a specific sound when reading individual words. During the initial phases of reading development there is relatively less focus on linguistic comprehension but as the learner becomes more efficient in mastering the decoding skills the focus shifts more to linguistic comprehension in developing reading comprehension. Linguistic comprehension now becomes a stronger predictor of reading comprehension. (Fuchs *et al.*, 2012; Garcia and Cain, 2014; Torppa *et al.*, 2016.)

If a learner struggles to read text or cannot decode the words at the grade appropriate speed, that learner needs attention at the level of decoding. If, on the other hand a learner can “read” the text (pronounce the words correctly at an appropriate pace) but cannot comprehend what she or he is reading, then the problem lies within the ambit of linguistic comprehension and the child needs attention in that regard. It is possible that a learner may have challenges on both levels (decoding and linguistic comprehension) in which case she needs to be coached in decoding and linguistic comprehension, or it may be that she suffers from dyslexia or has general learning problems.

Assessing decoding and language comprehension competencies

Because reading is so critical for young learners, it is important to ensure that they reach the desired levels of competency in terms of the milestones set out for their development into competent readers. The ultimate goal is to read with comprehension and it is therefore important to assess reading comprehension from earlier on.

Language comprehension is normally tested with listening comprehension tasks and vocabulary tests. These are good indicators of language comprehension.

genre: a category of literature, music or art. The main genres in literature are Poetry, Drama, Fiction, Non-fiction and Media, all with many possible subdivisions (See Wikipedia entry for List of writing genres).

register: a register is a variety of language used for a particular purpose or in a particular communicative situation. For example, spoken language in a formal public setting will have a register that obeys the norms for formal language use including using words considered more formal and avoiding non-standard or slang. A casual register would not.

semantics: the combining of separate word meanings into a sensible, meaningful whole; more generally, the study of meaning in language

syntax: the rules concerning the arrangement and order of words and phrases to create well-formed sentences in a language

At the early stage (Grade 1 level) decoding is tested by assessing the child's letter-sound knowledge. The child must be able to identify a letter shown on a letter card quickly by indicating what sound the particular letter represents.

From Grade 2 onwards learner's decoding ability is assessed by determining whether they can read words and pseudo-words. Pseudo-words (or nonsense words) are a good measure to determine whether the child can read phonetically.

At Grade 3 level, the children's decoding abilities are measured by their Oral Reading Fluency. It is important to assess the ORF of Foundation Phase learners to ensure that they are on the desired developmental trajectory.

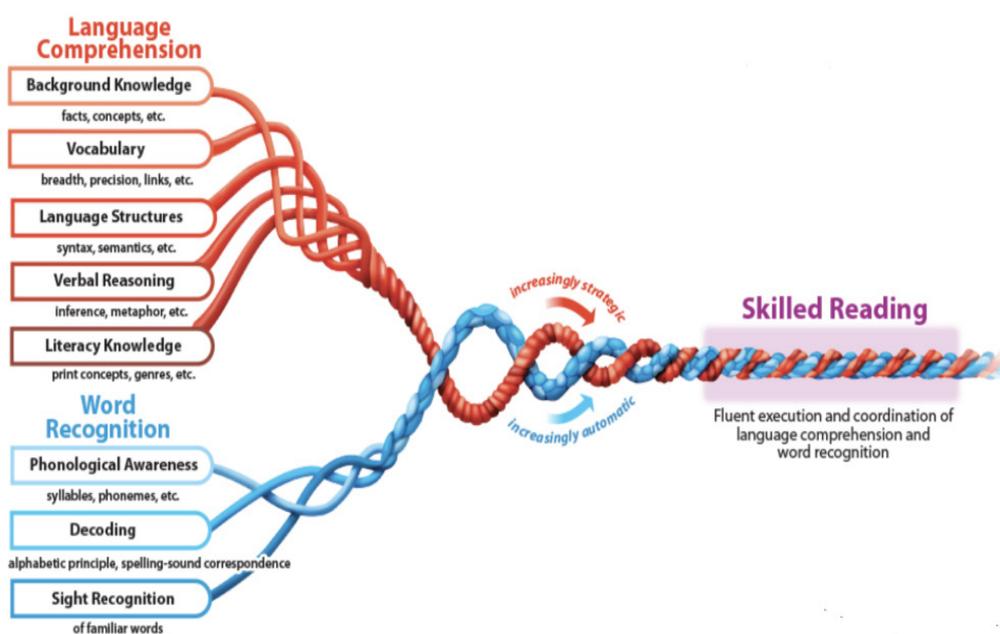
The latest benchmark and threshold levels as determined for the different levels at Foundation Phase level are given in Unit 10 in the discussion on oral reading fluency.

An interesting exercise to hone or assess language comprehension is to read an information text to the learners that describes a picture. The text is read to the learners while they look at the picture. They then have to compare the detail in the picture to what is read to them. They have to immediately indicate where the narration does not correlate with what is depicted in the picture.

By asking a learner to describe a picture, the teacher can for instance determine whether she lacks the skills associated with linguistic comprehension. If the learner lacks the vocabulary or the language ability to reason verbally it means that that learner's oral linguistic abilities are inadequate, and that will necessarily have a detrimental influence on the child's ability to develop reading comprehension.

To become a skilled reader, the learner must strengthen both his/her word recognition and language comprehension skills. This process is illustrated very aptly by Scarborough's reading rope image presented below.

Reading Rope from Scarborough (2001)



language comprehension: the ability to derive meaning from oral and written language. As indicated by the diagram, a reader must be capable of both understanding language and word recognition in order to gain meaning from written text.

word recognition: the process by which new readers learn to identify words and word parts. It begins with an understanding that letters represent the sounds in words and progresses to the ability to recognize written words correctly and virtually effortlessly.

Unit 7: Self test questions

1. What are the names of Frith's three stages of reading?
 1. _____
 2. _____
 3. _____
2. In the first stage the child " _____ " a name as a " _____ " and does not yet understand the writing system.
3. In the second stage the child can _____ words by matching the _____ in the words to the _____ they represent. In this stage the child has to understand the _____ principle.
4. Is phonics taught during the second stage? _____.
5. In the third stage the child has developed a substantial visual _____ or words they recognise.
6. Frith and many reading scientists argue for the necessity of the components of _____ and _____.
7. What is the equation presented in The Simple View of reading?

8. Using this equation what was a child's reading comprehension score if they got 65% for one component and 100% for the other?
_____ = _____
9. What are components of language comprehension?

10. What does asking a child to read a pseudo (made -up) word they have never seen before test?

8. Phonics – syllables and phonemes

Preliminary reading

Language and literacy, Unit 8. Decoding – letter-name knowledge (pp. 31-34)
Unit 9. Decoding – letter-sound knowledge (pp. 35-40)
Unit 10. Phonics

What is Phonics?

Phonics refers to the method of teaching beginner readers to understand the relationship between spoken and written language, the relationship between the letters of the alphabet and the sounds they represent. So phonics instruction is a way of teaching reading that focuses on the acquisition of letter-sound correspondences and their use in reading and spelling. Phonics is about developing the learner's ability to decode the words presented in a visual form (on paper or on an electronic device) so as to understand the message.

Phonics entails the decoding of the written word to its spoken form to be able to comprehend what it means. A successful phonics programme is one that teaches the relationship between the written word and the spoken word explicitly and systematically.

Learners must be taught the speech sound – letter (phoneme – grapheme) correspondence one by one in a particular order that makes this knowledge accessible to the learner. Phonics necessarily entails an understanding of the writing system – the orthography of the language, and the process of mapping speech sounds onto the graphemes that represent them in the written form.

The primary focus of phonics instruction is to help beginner readers understand the link between speech sounds (phonemes) and graphemes (a set of letter symbols) that represent the individual sounds in writing and to use that knowledge to blend letters to form words in the particular language. The learner will initially sound out the letters and words slowly and consciously but with much practice word recognition occurs rapidly and eventually automatically (without conscious attention). This will in turn allow the learner to establish the meaning of the words, and how the word meanings contribute to sentence meaning.

This knowledge and skill should ideally develop to a level where this process happens so quickly and automatically that it occurs below the level of the conscious awareness.

There are various approaches as to how phonics is taught and, particularly with African languages, debates on whether the initial teaching of phonics should start with decoding syllables or individual phonemes.



Sesotho and IsiZulu Reading Project

Study guide 2:

Language and
Literacy

Primary Teacher Education project
Department of Higher Education and Training

syllable: a speech sound having one vowel sound, with or without surrounding consonants, forming a part or the whole of a word

From syllables to phonemes

Learners should be able to distinguish **syllables** in spoken words and the constituent sounds within a syllable by the time they start with phonics. Transferring the knowledge learners have of syllables in spoken words to written words is necessary because the words in the African languages tend to be long and mostly morphologically complex and pose a challenge for beginner readers. Breaking them down into syllables first makes it easier to then decode the smaller phonemes

Learners learning through the medium of an African language generally have a better initial knowledge of syllables than of phonemes. However, explicit and systematic teaching of the phonemes of the language is essential. Knowledge of phonemes is, to a large extent transferable between languages, for example from Sesotho or isiZulu to English or vice versa. A fair number of phonemes that exist in Sesotho and/or in isiZulu also exist in English.

The order for teaching the sounds in phonics

The systematic teaching of phonics means that ideally at least three new vowels and some consonants should be taught per week during the first two weeks.

The order in which these phonemes is taught, will be determined by two basic considerations. The first is the complexity of the phoneme and the second is its frequency of usage. It makes sense to start off with vowels, combining them with selected consonants with a high frequency of usage in the language.

All the vowels should be taught within the first 10 days of Grade 1. The emphasis on teaching the vowels is imperative because all words in Sesotho and isiZulu comprise at least one vowel.

It also makes sense to start with phonemes that are represented by a single letter because they are easier, but it is not logical to finish all such phonemes before continuing with digraphs and trigraphs, etc., because there are some digraphs that occur frequently and must be taught early, for instance ph [p^h], kh [k^h] and th [t^h] and ng [ŋ] of Sesotho and isiZulu. These should be introduced in the second term of Grade 1.

Phonics teaching related to the syllables

The learner readers have to be able to identify and manipulate the syllables in the written word.

Typically, in a phonics lesson, the letter is introduced (shape, (name), and sound). The letter is combined with other letters (a vowel or consonant) to form syllables, followed by short words containing the sound. Letter cards, syllable cards and flashcards (with words) are used for each lesson to teach letter/syllable and word recognition and blending.

Teachers can use the syllabic approach (ba, be, bi, etc), but they **must** shuffle the sequence to make sure the learners are reading the syllable sequences, not chanting by rote.

Piasta and Wagner (2010) found that the most effective alphabet knowledge instruction is multi-componential, meaning that lessons should include learning activities that require letter recognition, letter naming, associating the symbol with a sound, discriminating the letter to be taught from other letters, categorizing letters into upper- and lowercase and writing them down, to name a few. Jones, Reutzel, and Clark (2012) describe just such a multi-componential alphabet knowledge lesson format that requires only about 12 minutes per day to teach.

Phonics activities include both 'see and say' the letter/syllable/word and 'listen and write' the letter/syllable/word.

Handwriting activities must come after phonics.

Generally, phonics teaching includes a systematic set of exercises involving the phonological operations of identification, matching, blending, segmentation, deletion and substitution (See *Language and literacy*, Unit 10, Phonics, page 43.).

Syllable Identification and Matching

Syllable identification and syllable matching exercises can be used to enable learners to distinguish easily between different syllables.

The first exercise could be a simple syllable identification test.

Does the word *manje* start with the syllable /ma/?

Does the word *njalo* start with the syllable /nja/?

Does the word *zona* start with the syllable /so/?

Does the stem *-cela* start with the syllable /ce/?

Does the stem *-thutha* start with the syllable /tu/?

Does the stem *-vula* start with the syllable /fu/?

The minimally contrasting pair test can be used to test general awareness of differences between syllables. This test entails comparing pairs of words or stems that are similar except for one syllable. Consider the examples below.

Do the stems *-thula* and *-thusa* start with the same syllable?

Do the stems *-fika* and *-vika* start with the same syllable?

Do the stems *-cima* and *-qina* start with the same syllable?

Do the stems *-dlala* and *-hlala* start with the same syllable?

Do the stems *-khala* and *-ganga* start with the same syllable?

Do the stems *-phinda* and *-penda* start with the same syllable?

Do the stems *-zama* and *-kothama* end with the same syllable?

Do the stems *-hlola* and *-vula* end with the same syllable?



Sesotho and IsiZulu Reading Project

Study guide 2:

Language and
Literacy

Primary Teacher Education project
Department of Higher Education and Training

Do the stems -kopa and -khiya end with the same syllable?

Do the words ikati and ithikithi end with the same syllable?

Do the words umakoti and izinto end with the same syllable?

The odd-one-out operation is one of the basic operations to develop or test the child's knowledge of syllables or phonemes. This operation can be applied to single syllables initially and then to syllables within words. (There should always be only one syllable in one item in the set that differs from the others.) The teacher could initially start with sets containing three items per set.

Always start with easier syllable types, for instance the /V/ and then /CV/, then /CCV/ etc.

The difficulty level can be increased by increasing the items from three to four and then to five items per set and thereafter increasing the difficulty level of the items in terms of the length of the syllables themselves.

The teacher can prepare tables with syllables such as those below and then print and laminate them. The teacher can then cut out red crosses on squares individually. When the learners do this exercise, each group will receive a table with the rows of syllable to be matched and a set of red crosses equal in number to the rows on the table. The learners are instructed to identify the syllable that is the odd-one-out in each row and place one of the red crosses over it. They should then read the remaining syllables aloud to ensure they are all the same.

This technique can be used for the various exercises as per the examples below.

Series of 3 syllables per set

i	I	e
o	U	o
a	O	o
a	E	e
wa	vi	wa
te	la	la
to	fu	to
zi	ze	ze



The difficulty level can be increased by increasing the number of syllables per set to four (and then to five), as in the example below:

Series of 4 syllables per set

o	O	u	o	X
e	E	i	e	X
u	A	u	u	X
za	si	ZA	za	X
be	be	pi	be	X
to	fu	to	to	X
la	qo	la	la	X
ma	ma	mo	ma	X

The difficulty level can be further increased by introducing more complex syllables. Start with the structure /CCV/ then /CCCV/ etc.

Develop the exercises focusing in particular on sound sequences that the learners have difficulty identifying or distinguishing and ensure that the various syllable structures are included. The technique explained above can be used to mark the odd-one-out in each row.

Mbo	mbo	mbe		X
Ngqe	ngwe	ngwe	ngwe	X
nhla	Nhla	ndle	nhla	X
Ngcwa	ngcwa	ngxwe	ngcwa	X

The next step is to identify a word in a set of words that has one syllable that distinguishes it from the other words in the set. Identifying the odd-one-out syllable in a set of words is obviously more challenging. Again, ensure to progress from easier to more difficult forms.

Nina	nina	wona		X
Ihlo	ihlo	ihlo	ifa	X
isikhumba	isikhumba	izikhumba	isikhumba	X
Umfula	umsila	umfula	umfula	X
ukudlala	ukuhlala	ukuhlala	ukuhlala	X

When the learners learn the capital letters exercise should also be designed using capital letters only or a combination of capital and lower case letters.

Syllable Segmentation

Segmenting entails the process of breaking down a word into its constituent segments – words can be segmented into syllables. Thus the “siyadla” can be segmented into the syllables /si/, /ya/, /dla/ and the word “abantwana” can be segmented into the syllables /a/, /ba/, /ntwa/, /na/ while the word “isiketekete” can be segmented into the syllables /i/, /si/, /ke/, /te/, /ke/, /te/.

Learners can be supplied with individual words to segment into syllables. Start with simple words (focusing on nouns, verbs or verb stems and pronouns) comprising two or three syllables and then gradually increase the difficulty level.

The learners should segment each word into its constituent syllables by rewriting it on the right one syllable per block as indicated below.

nina	>	ni	na				
nali	>	na	li				
amasi	>	a	ma	si			
siyacabanga	>	si	ya	ca	ba	nga	
isithuthuthu	>	i	si	thu	thu	thu	
besisahlakula	>	be	si	sa	hla	ku	la

The teacher can ask the learners cut out the individual syllables of selected words such as those in the table above and put the syllables of each word in a separate envelope. These envelopes, each containing the syllables that constitute a word can be marked and kept for a syllable blending exercise. (See below.)

Syllable Blending

Blending is the reverse process of segmenting. Blending is the process of putting together or mapping individual syllables to form a word, for example /i/ and /into/ to form the word “into”, or the syllables /ba/, /fu/ and /nda/ to form the word “bafunda” or /u/, /Vu/, /su/, /mu/, /zi/ to form the word “uVusumuzi”.

For a blending exercise the learners can take the envelopes with the cut-up syllables and blend them together to form words. (The teacher can either use the words cut up in the segmenting exercise or other suitable words that have been cut up previously and prepared for this purpose.) The learners can work in small groups taking out the syllables and then placing them in sequence to form a word. After each exercise, the pieces should be put back in the envelope for use in the future.

(Initially avoid using nouns from classes 1 and 3 with the shortened prefix um- and monosyllabic verbs containing the object morphemes for classes 1 and 1a (-m-). In these cases the /m/ is syllabic and you want the learners to first grasp the general pattern, namely that the end of a syllable is marked by a vowel before you introduce them to examples containing the syllabic consonant /m/ of isiZulu. The same applies to Sesotho words containing the **syllabic consonants**.)

The learners can also be given tables containing rows of syllables that each make up a word and the learners then have to blend the syllables to form words. Once the learners are able to do that the order of the syllables can be scrambled to make it more difficult to build the word. (In some instances a particular group of syllables may make up more than one word. See below.)

/ma/ /nje/	>	manje
/la/ /pha/	>	lapha
/zo/ /na/	>	zona / nazo
/thi/ /na/	>	thina / nathi
/i/ /si/ /tsha/	>	isitsha
/mi/ /zi/ /i/	>	imizi
/fu/ /a/ /ma/	>	amafu
/a/ /ba/ /fa/ /na/	>	abafana
/si/ /ya/ /the/ /nga/	>	siyathenga
/ngi/ /ya/ /ja/ /bu/ /la/	>	ngiyajabula
/sa/ /phu/ /mu/ /la/ /ba/	>	basaphumula
/a/ /ni/ /li/ /kha/	>	anikhali

Once the learners are competent at blending the syllables to form words the teacher can include examples of words containing the syllabic /m/. See the examples below:

syllabic consonant: a consonant that forms a syllable on its own, or is the first consonant in a syllable with no vowels.

/u/ /m/ /fu/ /la/	>	umfula
/u/ /m/ /zi/ /mba/	>	umzimba
/si/ /ya/ /m/ tha/ /nda/	>	siyamthanda
/ba/ /ya/ /m/ /bo/ /na/	>	bayambona

Syllable Deletion

Syllable deletion involves the removal of a syllable from a word, for example removing the syllable /li/ from the word “**li**tshe” to form the word “itshe” or /lu/ from the word “**u**lu**thi**” to form “uthi” or to make the word “baba” from “**u**baba”.

An easy exercise of syllable deletion can be if the words are given in a table form with the syllable division indicated in each case and then the learner can simply cover the syllable to be deleted and read the remaining word.

The learners should be given a piece of paper the size of one syllable block with which they can cover the syllable as per the instruction and then read the word.

Delete the 1st syllable of abantu	>	a	ba	ntu		
Delete the 2nd syllable of sisasebenza	>	si	sa	se	be	nza
Delete the last syllable of izintombi	>	i	zi	nto	mbi	
Delete the first syllable of uThembi	>	u	The	mbi		
Delete the second syllable of ulunyawo	>	u	lu	nya	wo	

In another similar exercise the learners will be asked to delete particular syllables from a set of words selected words made up of individual syllables and then let them delete particular syllables. Let them delete the 1st, 2nd, 3rd syllable, etc.

Use examples in which the resultant form also constitutes a word (as illustrated in the examples below) rather than resulting in a nonsense word. (The learners may be requested to apply the operation and then read the resultant word and use it in a sentence.)

Delete the 1st syllable of bantu	>	/a/ba/ntu/	>	bantu
Delete the 2nd syllable of izinkomo	>	/i/zi/nko/mo/	>	inkomo
Delete the 2nd syllable of siyathenga	>	/si/ya/the/nga/	>	sithenga
Delete the 2nd syllable of ulunyawo	>	/u/lu/nya/wo/	>	unyawo
Delete the last syllable of isithombe	>	/i/si/tho/mbe/	>	isitho
Delete the 3rd syllable of intombi	>	/i/nto/mbi/	>	into

Syllable Substitution

Syllable substitution involves the process of replacing one syllable with another, for instance replacing the syllable /so/ in the word “**so**na” with the syllable /thi/ to form the word “**thi**na” or replacing the syllable /ba/ in “**ba**yaxoxa” with /ni/ to form the word “**ni**yaxoxa”.

In this example learners have to read sentence and then replace the syllable /ba/ with each of the syllables underneath them to form a new sentence every time. (The teacher should make her own examples based on the examples given here.)

Mina ngiyabala.

Mina **ngi** **ya** **ba** **la**

bha

sa

qa

la

va

The same process has to be followed with the two examples below.

Thina siyaphula.

Thina **si** **ya** **phu** **la**

bhu

khu

su

fu

zu

vu

Wena uyasika.

Wena **u** **ya** **si** **ka**

fi

bi

ji

phi

vi

Supply the learners with a list of words or verb stems and tell them to substitute a particular syllable in the word with another syllable. Let them substitute different syllables in the word, not only the first or/and last syllable.

See the examples below.

Replace the 2nd syllable of -vika with	mba					
Replace the 1st syllable of -thutha with	fu	bu	su	tha	the	
Replace the 3rd syllable of siyathenga with	thu	nce				
Replace the last syllable of ithuba with	na	nga				
Replace the last syllable of isibalo with	mbo	ya	ne			
Replace the 1st syllable of bona with	we	ye	mi	thi	yo	wo
Replace the 1st syllable of uyawa with	ni	ngi	a	si	ba	zi
Replace the 1st syllable of liyagijima with	a	zi	ba	u	ngi	lu

noun class: in the Bantu languages nouns are grouped according to their prefix. The nouns in each class refer to certain categories of things or concepts. There are 23 nominal classes though a particular language may not have all of them, for example isiZulu has 14, Sesotho and IsiXhosa have 15 and Tshivenda has 20.

It is important for the learners to understand the **noun class** system and the agreement system based on the noun class prefixes. Selecting and applying appropriate syllable and phoneme replacement exercises involving the noun class prefixes and the (subject) agreement morphemes (all of which comprise of a single syllable) are simple ways to teach these important principles in an indirect way. These applications also facilitate reading.

This concludes the section on phonics involving syllables. We will now focus on the application of phonics involving phonemes.

Phonics teaching related to phonemes

Phonics teaching related to phonemes also includes a systematic set of exercises involving the phonological operations of matching, blending, segmentation, deletion and substitution (See *Language and literacy*, Unit 10, Phonics, page 43.).

Complications in the relationship between phonemes and letters

By now you would have realised that sometimes a single phoneme can be represented by a single letter or a particular sequence of letters.

Teaching phonics is made challenging by the fact that most languages have far more speech sounds (phonemes) than the 26 letters of the alphabet that represent them. Even though there are instances of one letter representing one sound there is no absolute one-to-one relation between the speech sounds and the graphemes that represent them in writing. Thus the application of the writing system (with this inherent shortcoming) leads to the following:

- (1) one letter may represent one sound
- (2) one letter may represent different sounds
- (3) a combination of letters may represent a single sound or
- (4) different letters may represent the same sound.

(See *Language and literacy*, Unit 9, Decoding – Letter-sound knowledge, pp. 36-37.)

The beginning reader has to be able to distinguish between a consonant sequence comprising a single phoneme and a consonant combination that does not constitute a single phoneme.

If there are two letters representing a single phoneme it is called a digraph, and if there are three it is called a trigraph, etc. Well-known sequences of letters that represent a single phoneme are for instance the kh in -kipha, ph in -phuma, th in -thatha, sh in -shaya, hl in -hlehla, dl in -dlala and kl in -kinya. While the h after certain consonants indicates that the sound is aspirated, the use of a g before the click sounds indicate that that click is pronounced with murmured voice, as in -gcaba, -gqiba and -gxuma. Consider the trigraph tsh in words such as -tshala, and “itshe”.

You must also remember that the phoneme /m/ is syllabic when it is used as the shortened form of the prefix of class 1 and 3 nouns. Compare for instance the syllabic structure of the class 1 and 3 words **um**fana (> /u/**m**/fa/na/), and **um**thombothi (> /u/**m**/tho/mbo/thi/) as opposed to **umu**ntu (> /u/mu/ntu/) and **umu**zi (> /u/**mu**/zi/). The shortened form of the object morpheme of noun classes 1 and 1a -m- is also syllabic. Consider the syllabic structure of “Ngiya**m**thanda (> /ngi/ya/**m**/tha/nda/) uThembi” as opposed to “Ngiya**mu**zwa (> /ngi/ya/**mu**/zwa/) uThembi.”

Even though up to four letters (representing consonants) can appear in immediate succession in a single syllable, such consonant combinations do not necessarily

form a single phoneme. Some of the older sources regard the **n** that appears before certain consonants as forming a single phoneme with that consonant (or consonants). That is not necessarily correct.

If the **nasal** /n/ appears before the consonants /g/, /k/ and /y/ the **nasal** changes and becomes (sometimes written as /N/ to indicate that) and forms one phoneme with the following consonant. The nasal /n/ becomes phonetically [ŋ] when followed by a /k/ or /g/ as in the words inkomo (> /i/N/k/o/m/o/) and ingubo (> /i/N/g/u/b/o/). The /n/ also becomes a [ŋ] phonetically before the click sounds. Again, the nasal becomes **homorganic**, but in these instances it does not form one phoneme with the click. Consider the examples iyancela (> /i/y/a/N/c/e/l/a/), nxa (> /N/x/a/) and inqola (> /i/N/q/o/l/a/). The /n/ becomes phonetically [ŋ] when followed by a y in a word such as “inyama”, phonologically thus /i/Ny/a/m/a/.

The semi-vowel **w** often appears after certain consonants in Sesotho and isiZulu. However, the /w/ does not combine with the preceding consonant to form a single phoneme, it remains a separate phoneme in such cases. The semi-vowel /w/ thus retains its status as a separate phoneme when it is preceded by other consonants, even though it has a phonetic influence on the preceding consonant resulting in lip rounding in some of these consonants. Despite the phonetic influence the semi-vowel /w/ exerts on the preceding consonant it remains a separate phoneme. The word “utshwala” therefore comprises the phonemes /u/tsh/w/a/l/a/.

Consider the phoneme analysis of the words below that indicate that the semivowel /w/ retains its status as a separate phoneme.

indwangu	>	/i/n/d/w/a/ng/u/
uchwephesha	>	/u/ch/w/e/ph/e/sh/a/
uncwinza	>	/u/n/c/w/i/n/z/a/
ingqwele	>	/i/n/gq/w/e/l/e/
ongcwele	>	/o/n/gc/w/e/l/e/

(Note that some older sources maintain that the /w/ combines with the preceding consonant to form a single phoneme. We do not subscribe to that view. Consult Appendices A, B, and C at the end of this Study Guide for lists of the isiZulu and Sesotho phonemes.)

nasal: a nasal is a consonant produced with a lowered velum, allowing air to escape freely through the nose.

homorganic: consonant sounds that are articulated in the same position or place of articulation in the mouth

semi-vowel: a letter that can work as both vowel and consonant

Phoneme Identification and Matching

The techniques used to alert the learner to phonemes in spoken words discussed in the phonological awareness section of this Study Guide can be applied (with slight changes) to the teaching of phonics as well.

The learners can be asked to identify the first or the last sounds in written words. The easiest version of the phoneme identification exercise is to ask the learners to identify the first sound in words or stems such as “mina” or “wena” or -thuma or “ehlathini” or -hleka.

Learners may also be asked to identify all the individual sounds in a list of words and to mark them using slashes.

The minimal phonological contrasting pair test can be used to test general awareness of phoneme differences in written words or stems. This test entails comparing pairs of words or stems that are similar except for one phoneme. The learner has to answer each question below.

- Do the stems -sala and -kala start with the same or different sounds?
- Do the stems -thuma and -thula start with the same or different sounds?
- Do the stems -gxuma and -xhuma start with the same or different sounds?
- Do the stems -teta and -theta start with the same or different sounds?
- Do the stems -vuka and -fukama start with the same or different sounds?
- Do the stems -phendula and -phila start with the same or different sounds?
- Do the words inja and inkabi start with the same or different sounds?
- Do the words ihhashi and imisele start with the same or different sounds?
- Do the words ameva and amanzi start with the same or different sounds?
- Do the words intethe and isaka end with the same or different sounds?
- Do the words unyawo and umnyango end with the same or different sounds?
- Do the words amafu and isitofu end with the same or different sounds?

This test can be extended to include word pairs that differ in more than one phoneme as well.

Consider the exercises below:

- Do the stems -zama and -kothama end with the same or different sounds?
- Do the stems -hlola and -vule end with the same or different sounds?
- Do the stems -kopa and -khiphile end with the same or different sounds?
- Do the words umakoti and izinti end with the same or different sounds?

Ensure to focus on the first and last sound of the words only.

Below are a few examples of exercises with sounds/phonemes in positions other than the first and last sound in the word.

Do both words isondo and ingubo contain the /o/ phoneme/sound?

Do both words inkabi and inkunzi contain the /nk/ phoneme/sound?

Do both words imbuzi and inkunzi contain the /u/ phoneme/sound?

Do both words ijuba and ijezi contain the /j/ phoneme/sound?

Do both words icansi and umqansa contain the /c/ phoneme/sound?

Here is another version of the phoneme exercise above.

Which phoneme is different in the stems -vula and -vala?

Which phoneme is different in the stems -vuma and -vuka?

Which phoneme are different in the words ugogo and ogogo?

For an odd-one-out operation supply the learners with sets of words (three to five words per set) with one phoneme in the set being different from the others. (There should be only one word that is different from the others in terms of one phoneme.) They have to identify the odd-one-out. Let the learners first identify the word that is different and then indicate which phoneme in that word is different. Again, you should start with word sets of three words then increase the number of words per set to four and then eventually to five. Remember to start with short words and gradually increase the difficulty level.

In each row circle the word or stem that is different from the others and also circle the phoneme in the word or stem that is different from that in the similar words in that row.

la	La	le		
Lapho	lapha	lapha		
Izinto	izinti	izinto		
Ihlo	iso	Ihlo		
-dlala	-hlala	-dlala	-dlala	
-vutha	-futha	-futha	-futha	
Isitsha	izitsha	isitsha	isitsha	
Siyawa	siyawa	siyawa	siyama	siyawa
ukuphula	ukukhula	ukuphula	ukuphula	ukuphula
bazobona	bazobona	bazobona	bayobona	bazobona

Blending Phonemes

Phoneme blending entails putting together the individual phonemes (in the correct sequence) to form a word. It entails for instance joining the phonemes /l/ /e/ /z/ /i/ together to form the word “lezi”.

Learners can be expected to blend the phonemes to form words as in the examples below.

- /a/ /b/ /a/ /n/ /t/ /u/ > **abantu**
- /y/ /a/ /s/ /i/ /y/ /a/ > **siyaya**
- /ph/ /o/ /n/ /d/ /o/ /u/ > **uphondo**
- /n/ /a/ /b/ /o/ > **bona; nabo**
- /hl/ /i/ /l/ /a/ /s/ /a/ > **sihlala; silahla**

An alternative form of this exercise requires the teacher to make separate letter cards (either by hand or print them) and put all the letter cards for a particular word in a separate envelope.

The learners then have to take the blocks with the individual phonemes from the envelope and blend them to form a word. See the examples below.

ng	i	y	a	th	e	ng	a
----	---	---	---	----	---	----	---

a	m	a	f	u	th	a
---	---	---	---	---	----	---

i	n	gq	a	th	u
---	---	----	---	----	---

Deletion of Phonemes

Deletion involves the removal of a phoneme from a word, for example, in the sentence “Angiboni imoto lapha.” using “moto” instead of “imoto”.

The initial vowel of a personal name or relationship term is omitted when used as a form of address, for instance (u)Vusi, uyakubiza ubaba.

Indicate the phoneme deletion that takes place if the nouns or personal names below are used as a form of address.

Name / noun	Form of address
uThemba	
Ubaba	
udadewethu	
uNtombi	
Indoda	
umalume	

Phoneme deletion also occurs at the end of words in rapid speech. In fast speech a sentence such as “Sithanda amasi.” can be changed to “Sithand’ amasi.” (with the final vowel of the first word deleted). This form of deletion is also used by writers and poets for effect or in the case of poetry to change the metre of a line.

Deletion of the initial vowel of a noun is compulsory in the absolute negative in a sentence such as “Asiboni indwangu lapha.” (‘We see no cloth here / We see nothing like a cloth here.’).

Substitution of Phonemes

Phoneme substitution involves the process of replacing one phoneme in a word with another, for instance replacing the phoneme /s/ in the word “isitsha” (‘dish’) with the phoneme /z/ to form the word “izitsha” (‘dishes’).

Supply the learners with individual verb stems or words and then tell them to substitute particular phonemes with other phonemes as instructed.

Replace the final phoneme /i/ with /o/ in the word leli.	>	lelo
Replace the final phoneme /i/ with /o/ in the word lesi.	>	leso
Replace the final phoneme /a/ with /o/ in the word lapha.	>	lapho
Replace the final phoneme /a/ with /o/ in the word laba.	>	labo
Replace the phoneme /s/ with /z/ in the word isitsha.	>	izitsha
Replace the phoneme /z/ with /s/ in the word lezi.	>	lesi
Replace the phoneme /m/ with /b/ in the word umuntu.	>	ubuntu
Replace the phoneme /d/ with /t/ in the word isondo.	>	isonto
Replace the phoneme /v/ with /bh/ in the word siyavula.	>	siyabhula

Substituting phonemes is required when forming the negative of a phrase, for example, replacing the final /a/ in the word “bafunda” in the phrase “bafunda isiZulu” with /i/ (and prefixing the negative morpheme a- to form the negative “abafundi isiZulu”). (Note that the negative morpheme a- at the beginning of the verb and the negative verb final morpheme are concomitant morphemes – they always appear together.)

Make the verb sibona negative in the sentence Sibona ufezela.
> (Asiboni ufezela.)

What happened to the /a/ of sibona? (It changed to /i/.)

Make the verb ngidla negative in the sentence Ngidla isinkwa.
> (Angidli isinkwa.)

What happened to the /a/ of ngidla? (It changed to /i/.)

Make the verb bayacula negative in the sentence Bayacula.
> (Abaculi.)

What happened to the /a/ of bayacula? (It changed to /i/.)

Let the learners substitute the phonemes in different syllables in the stem or word. Ensure that the resultant form is also a word, as in the examples below.

-vika	Replace the 1st sound with /ph/; /f/; /s/; /b/; /j/; /n/
-thutha	Replace the 1st sound with /f/; /b/; /v/; /s/
siyathula	Replace the sound /u/ with /e/; /o/
liyagijima	Replace the sound /l/ with /s/; /z/; /n/; /ng/
bona	Replace the 1st sound with /s/; /z/; /l/; /w/; /y/

The substitution exercise below can be used as a “do” exercise. The word stems can be printed on a sheet of paper with the vowels to be used to substitute the vowel in the stem printed on a separate sheet. Laminate both sheets of paper and cut out the separate vowels putting each group of vowels (colour coded) in an envelope and mark the envelope. The teacher can then instruct the learners to replace the vowels one by one, sticking the vowel over the existing vowel indicated in the word stem and then reading the word stem and explaining its changed meaning.

After finishing a particular exercise, the word/stem and the set the vowels must be put back in the envelope for use in the future.

p h u l a

e

i

o

t h e l a

o

u

s o l a

u

a

The use of nonsense words

Exercises for these phonological operations should not only focus on the first and last phonemes or syllables in the word.

Nonsense words may be used to test the learners' ability to apply an operational principle. They are a good way to determine whether learners can sound out words. They are also a good test of the learners' knowledge of vocabulary.

Nonsense words have the phonological and morphological structure of real words in the language, but they are silly words because they have no meaning. Consider forms such as "isithulu", "umzafo" and "iphadla".

An example of the use of nonsense words, silly words or pseudo-words would for instance be instances of a learner having to replace the first syllable of the stem -funda with kha, khu, khe, and kho. While the resultant form of the first operation is perfectly suitable (because there is a word stem -khanda in isiZulu) the other resultant forms *khunda, *khenda and *khonda are pseudo- or nonsense words.

However, the use of nonsense words for the sake of applying a particular operation should be limited.

Chanting is not phonics

South African classroom research suggests that teachers often spend a lot of time getting children to chant letter sounds (a, e, i, o, u) and simple syllables (ba, be, bu, bo, bi). This is not 'phonics' and does not lead to reading. The success of teaching letter-sound knowledge is not at all about spending a lot of time on reciting letters and syllables.

* : When you see an asterisk or asterisks in a word or sentence or next to a character in a word in any linguistic text it means that the word or sentence is not found in the natural spoken language. It has been constructed by the writer to illustrate some point.

Unit 8: Self test questions

1. Define phonics.

2. Should a teacher teach all the letter-sound correspondences in one go or in an appropriate order over time?

3. Is it best to teach phonics at the level of phonemes or syllables?

4. What would be a good sequence to teach?

5. Should one only teach digraphs and trigraphs after all the phonemes represented by single-letters are done?

6. Outline a typical sequence in a phonics lesson.

7. What phonological operations are commonly taught in phonics exercises.

8. What is syllable segmentation?

9. Why is phonics teaching related to phonemes challenging?

9. Morphological awareness and reading

Preliminary reading

Language and literacy, Unit 11. Morphological awareness (pp. 45-54)

It is only fairly recently that scholars have realised the importance of morphology for reading (and for vocabulary building). Morphological awareness is particularly important for agglutinating languages and since the African languages are agglutinating languages, the impact of morphological awareness on reading needs to be explored.

What is morphology and what are morphemes?

Morphology is the study of how words are made up of smaller units that carry meaning, called morphemes. The three basic types of morphemes are: lexical morphemes or roots, stems, and grammatical morphemes.

Roots (lexical morphemes)	A root is that part of a word that cannot be analysed any further into smaller meaningful parts and which carries the basic meaning of the word. These morphemes are nouns, adjectives and verbs that are independently meaningful, e.g. “dog”, “inja”, “good”, “pretty”, “man”.
Stems	The term stem is best described as the root plus an affix or affixes. [The term ‘stem’ is often defined as a root plus suffixes. That definition is based on the assumption that the morphological structure of the language generally comprises a root and suffixes. In the African languages prefixes are as productive as suffixes and therefore this definition is inadequate.] The term stem is used to refer to that part of a word in a morphological analysis that has been shed of some morphemes but which still contains a root plus one or more morphemes.
Grammatical	These are small sets of letters that perform a function when used with words or added to words, They include prepositions, conjunctions, pronouns and the noun class prefixes class in African languages. They include all the affixes.

Morphemes are the smallest units of words that carry meaning. Unlike a word, which has a stand alone meaning, a morpheme often does not stand alone and the meaning of a morpheme is context dependent, that is, it is only in the context of a particular word that the contribution of the morpheme to the meaning of the whole word becomes clear.



Sesotho and IsiZulu Reading Project

Study guide 2:

Language and Literacy

Primary Teacher Education project
Department of Higher Education and Training

Take the example in English of the letter s. It has no meaning in itself but, used as a plural, it has. It is thus a morpheme when added to a word such as “cat” to turn it into the plural “cats”.

Take the English word “unbreakable”. It is meaningful and is a word with three morphemes. “Unbreakable” is composed of the morphemes: un- (a morpheme signifying “not”), -break- (the root, a morpheme), and -able (a morpheme signifying “can be done”).

Some languages have very a **productive morphology**, that is, many morphemes in the language are actively used in not only existing words, but also in word-formation. This means that the morpheme is so regularly attached to words that the speaker does not have to memorise words but rather the rules about attaching morphemes to words or word bases.

Most words in Sesotho and isiZulu are polymorphemic, which means they contain two or more morphemes. It is thus evident that Sesotho and isiZulu have a far more **productive morphology** than a non-agglutinative language such as English.

Subject and object morphemes in African languages

Consider the morpheme ba- in the word "bayadlala" in the sentence "Abantwana bayadlala." ‘The children they are playing / The children are playing’. This morpheme **ba-** appears as the first morpheme in the verb and it is called the **subject morpheme** because it marks the subject in the verb, telling us who is/are playing.

Now, compare the use of the morpheme -ba- in the verb "siyababona" in the sentence "Siyababona abantwana." (‘We see them, the children’). In this sentence the subject morpheme is si- and the subject is thus "thina" (‘we’). The morpheme -ba- marks "abantwana" as the object of this sentence, thus as the people/thing being seen. This morpheme -ba- is therefore called the **object morpheme**.

Both the subject and the object morphemes signify particular grammatical functions and are therefore classified as grammatical morphemes. Note that it is clear from the examples above that morphemes have a fixed position in the word structure. With reference to the examples above we can conclude that the subject morpheme is the first morpheme in the verb (in the **positive polarity**) while the object morpheme appears directly before the verb root.

The African Languages as agglutinating languages

The African languages are agglutinating languages, meaning that they have a very productive morphology – a large number of grammatical morphemes can be attached to the word in order to modify or extend its meaning.

Compare the difference in the number of morphemes in this isiZulu word which is also a sentence and the equivalent English sentence:

“Basazofundisana.”

“They will still teach each other.”

productive morphology: a large number of grammatical morphemes can be attached to words in order to modify meaning.

positive polarity: a statement that is positive, not a negative. So "To be" is positive, "Not to be" is negative. The positive word "lucky" is made negative as "unlucky" by the affixing of the morpheme "un". Some words are positive (e.g. "strong"), some are negative (e.g. "weak").

IsiZulu employs a single word (a verb) “basazofundisana” (ba-sa-zo-fund-is-an-a) comprising seven morphemes to express the meaning expressed by the six English words “they will still teach each other”.

Agglutination is the process of adding affixes to the word to mark grammatical categories and syntactic functions. Consider for instance the noun class prefixes that mark the categories of singular or plural or non-countable and in general the noun system of the language.

The noun “umuntu” contains the **noun class** prefix umu- that marks the singular and at the same time marks the noun as belonging to the class 1 - the human class. On the other hand, the noun “abantu” contains the noun class prefix aba- that marks the plural and at the same time marks the noun as belonging to Class 2 – also human class but plural.

The verb also contains certain morphemes that, for instance mark the subject, object, mood, tense and polarity (positive and negative statements). Consider the sentence below.

“Siyazibala izinkomo.”

(‘We are counting them, the cattle.’)

In the sentence above, the verb “siyazibala”, contains the subject morpheme **si-**. This morpheme marks the subject as being the first person plural. The verb also contains the object morpheme **-zi-**. This morpheme marks the object in the verb as being “izinkomo”. The final morpheme **-a** in the verb is the verb categorial morpheme and marks the verb as being the positive form of the present tense.

Morphology and its importance for reading

Morphological awareness is the knowledge and skills associated with breaking words down into smaller units of meaning such as stems, roots, and morphemes.

Because morphology is so productive in the African languages, an understanding of the morphology of these languages contributes greatly to making meaning of words and thus also of the written word and ultimately of the sentence. Berninger *et al.* (2002) and Kruk and Bergman (2013) among others, conclude that morphological knowledge is critical to the development of reading fluency.

The grammatical morphemes of Sesotho and isiZulu often consist of a single syllable and there is a strong correlation between syllables and morphemes in terms of the morphemes that appear in front of the root in the word structure.

See for instance the morpheme and syllable correlation in the Sesotho and isiZulu verb forms “ha ba sa sebetse” and “abasasebenzi” (‘they are no longer working’) respectively and the **locative** derived nouns “sefateng” (‘at/in/to ... the three’) and “emifuleni” (‘at/in/to...the rivers’) below.

The analyses are presented in a table form for easy comparison between the syllabic and morphological analysis of each of these words.

locative noun: a noun representing a place, location or direction

Syllabic and morphological analysis of the Sesotho verb “ha ba sa sebetse”

“ha ba sa sebetse” (‘they are no longer working’)						
Syllables	/ha/	/ba/	/sa/	/se/	/be/	/tse/
Morphemes	ha- (negative morpheme, indicative)	-ba- (subject morpheme, class 2/2a)	-sa- (progressive morpheme)	-sebetse- (verb root)	-e (negative verb final morpheme)	

Note the correlation between the syllables and morphemes in the pre-root position of the verb “ha ba sa sebetse” (‘they are no longer working’) in the table above.

In the case of the morphemes /ha/, /ba/ and /sa/ the morpheme and syllabic boundaries correlate exactly.

Syllabic and morphological analysis of the isiZulu verb “abasasebenzi”

“abasasebenzi” (‘they are no longer working’)						
Syllables	/a/	/ba/	/sa/	/se/	/be/	/nzi/
Morphemes	a- (negative morpheme, indicative)	-ba- (subject morpheme, class 2/2a)	-sa- (progressive morpheme)	-sebenz- (verb root)	-i (negative verb final morpheme)	

It is clear from the analysis of the verb with the root -sebenz- that the boundaries of the morphemes and the syllables in pre-root position, namely /a/, /ba/ and /sa/ (highlighted in the table above) correlate exactly.

The boundaries of the syllable and morpheme /se/ of the Sesotho word "sefateng" in the table below also correlate exactly. Because these morphemes have a very high frequency of usage and are quite predictable, exposing the learner to them and using them to establish particular word **grain** patterns in the learners’ memory will facilitate easy recognition of these morphemes and support learning to read. (The same is true for the subject morphemes.)

grain: in linguistics the particular smaller components within the whole word

Syllabic and morphological analysis of the locative derived Sesotho noun “safateng”

“safateng” (‘at/in a tree’)				
Syllables	/se/	/fa/	/te/	/ng/
Morphemes	se- (class prefix, class 7)	-fat(e) (noun root)	-(e)ng (locative suffix)	

The boundaries of the morphemes and the syllables /e/ and /mi/ of the isiZulu word emifuleni in the table below correlate exactly.

Syllabic and morphological analysis of the locative derived isiZulu noun “emifuleni”

“emifuleni” (‘at the rivers’)					
Syllables	/e/	/mi/	/fu/	/le/	/ni/
Morphemes	e- (locative prefix)	-mi- (true class prefix, class 3)	-ful(a) (noun root)	-(i)ni (locative suffix)	

This correlation between the morpheme and syllable boundaries in pre-root morphemes makes it feasible to include exercises involving pre-root morphemes with a high frequency of usage as part of a phonics lesson in Grade 1 or 2. These forms can for instance be incorporated in phonics replacement or blending application exercises. The noun class prefixes (in the case of Sesotho nouns) can be used in a syllable replacement exercise while subject morpheme replacement or blending (in the case of both Sesotho and isiZulu) come to mind as simple exercises.

Consider the examples below.

Replace the first syllable/morpheme in the nouns below to form a plural.

sefate	>	difate
motho	>	batho

Replace the underlined subject morpheme in the second column (marked with an asterisk to indicate that these forms are ungrammatical) with the correct subject morpheme. (See the correct forms in the last column.)

			Correct
Sesotho:	Nna ke ja nama	*Rona ke ja nama	Rona re ja nama
IsiZulu	Mina ngidla inyama	*Thina ngidla inyama	Thina sidla inyama

Because noun class prefixes and subject morphemes in African languages have a very high frequency of usage and are quite predictable, exposing the learner to them and using them to establish word patterns in the learner’s memory will facilitate easy recognition of these morphemes and support learning to read.

An understanding of the basic morphological structure of words in a language does not only have a significant impact on vocabulary building, it also has a positive impact on reading in that language.

* : When you see an asterisk or asterisks in a word or sentence or next to a character in a word in any linguistic text it means that the word or sentence is not found in the natural spoken language. It has been constructed by the writer to illustrate some point.

Morphology and the word categories

Each word category has its own unique morphological structure. Focussing on the word category of the noun, a noun in Sesotho and isiZulu is characterised by the basic morphological structure as indicated below.

Sesotho nouns

The Sesotho noun comprises a **noun class prefix** and a root.

Basic morphological structure of the noun in Sesotho

	Word	Noun class prefix	Root
Sesotho:	motho	mo-	-tho
	batho	ba-	-tho
	sefate	se-	-fate
	difate	di(n)-	-fate

The noun class prefix morphemes mo-, ba-, se- and di- are grammatical morphemes while the forms -tho and -fate are roots.

isiZulu nouns

Unlike the Sesotho noun, the noun class prefixes of isiZulu (and other Nguni languages) comprise a preprefix and a true prefix.

Basic morphological structure of the noun in isiZulu

	Word	Preprefix	True noun class prefix	Root
isiZulu:	umuntu	u-	-mu-	-ntu
	abantu	a-	-ba-	-ntu
	isihlahla	i-	-si-	-hlahla
	izihlahla	i-	-zi-	-hlahla

The noun class prefix morphemes u- mu-, a- -ba-, i- -si- and i- -zi- are grammatical morphemes while the forms -ntu and -hlahla are roots.

Sesotho verbs

The basic form of the verb in the positive comprises three morphemes. These morphemes are, a subject morpheme, a verb root and a verb categorial morpheme.

Consider the Sesotho verb "re reka" (< re-rek-a) in the sentence "Re reka dibuka." The subject morpheme **re-** is the grammatical morpheme that denotes the 1st person plural as subject while the verb root is **-rek-** (with the meaning of 'buy') and the final morpheme **-a** marks the verb as a positive form of the indicative, present tense. (From this analysis it is clear that a single morpheme may denote more than one grammatical category – in this case the final morpheme **-a** marks the **indicative mood**, the present tense, and the positive polarity.)

indicative mood: the form – or mood – of the verb used in ordinary statements: stating a fact, expressing an opinion, asking a question

In the negative, the basic form of the verb will comprise a negative morpheme **ha-** followed by the subject morpheme then the verb root and then the negative verb categorial morpheme. Consider the verb "ha re reke" (< ha-re-rek-e) in the sentence, "Ha re reke dibuka." ('We are not buying the books').

IsiZulu verbs

Consider the isiZulu verb "sithenga" (< si-theng-a) in the sentence "Sithenga amaswidi." ('We are buying sweets.'). The subject morpheme **si-** is the grammatical morpheme that denotes the 1st person plural as subject while the verb root is **-theng-** (with the meaning of 'buy') and the verb categorial morpheme **-a** marks the verb as a positive form of the indicative, present tense. (From this analysis it is clear that a single morpheme may denote more than one grammatical category. The final verb morpheme (or verb categorial morpheme) **-a** marks the indicative mood, the present tense, and the positive polarity.

In the negative, the basic form of the verb will comprise a negative morpheme **a-** followed by a subject morpheme then the verb root and then the negative verb categorial morpheme **-i**. Consider the verb "asithengi" (< a-si-theng-i) in the sentence, "Asithengi amaswidi. "

Examples of the application of morphological awareness

The simple morpheme insertion exercise below involving first and second person singular and plural **subject morphemes** will assist the learners in recognising these morphemes and understanding their grammatical functions in text as agreement morphemes.

The teacher should prepare a card (green in the example below) with simple sentences with a blank space where the subject morphemes attached to the verb should go (orange). The learner is given a set of subject morphemes on little cards (yellow) which she or he has to place in the correct position (on the orange slot). The learner then has to read each sentence and explain its meaning. (The blue column shows the correct subject morphemes.) (Keep the components of this exercise together in a plastic sleeve or envelope for future use. Obviously, the teacher can develop similar application exercises for use in future.)

Mina		khuluma	isiZulu.	ni		u
Wena		gqoka	izingubo.		si	si
Thina		bhala	incwadi.	u		ni
Nina		vuka	ekuseni.	ngi		ngi
Mina		thanda	ukufunda.	ngi		u
Wena		phatha	isikhwama.		ni	si
Thina		siza	uthisha.	u		ni
Nina		funda	izibalo.		si	ngi

The **noun class subject morpheme** insertion exercise below will assist the learners to recognise these morphemes and understand the morphological agreement principle better. The absolute predictability of these morphemes contributes to automaticity in reading. Here the learners have to place the correct subject morpheme in each blank slot to complete the verbs in each sentence. They then have to read each sentence and explain the meaning of the sentence. (The teacher can again design her own exercises based on the format of the example below.)

UZodwa		hleka	kamnandi.	zi		ba
Ogogo		thenga	ukudla.		ba	i
Inkomo		dla	utshani.	i		u
Imithi		mila	kahle.	ba		zi
Izikhova		bamba	amagundane.		zi	i
Isikhova		khala	ebusuku.		si	zi
Umzali		sebenza	eGoli.	u		ba
Abantwana		ya	ekhaya.	u		si
Izinyoni		dla	umbila.		i	u

Another exercise the teacher can use, is to write down short sentences similar to those above, but without spaces between the words and then ask the learners to:

- (1) rewrite each sentence inserting spaces between the words and then
- (2) identify the noun prefix of the subject noun and subject morpheme by underlining these morphemes in each case.

Consider this examples. The teacher presents a set of sentences with no spaces between the words. The learners have to write out the sentence with the correct spaces and underline or circle the subject noun prefix and the subject morpheme.

Sentence (no spaces)	Sentence (spaces between words)	Subject noun prefix and subject morpheme underlined
Uthishauyakhuluma.	Uthisha uyakhuluma.	<u>U</u> thisha <u>u</u> yakhuluma.
Abafanabadlalaibhola.	Abafana badlala ibhola.	<u>A</u> bafana <u>b</u> adlala ibhola.
Izinjazidlainyama.	Izinja zidla inyama.	<u>I</u> zinja <u>z</u> idla inyama.
Isikolesivalanamhlanje.	Isikole sivala namhlanje.	<u>I</u> sikole <u>s</u> ivala namhlanje.
Amadadaabhukudaedanyini.	Amadada abhukuda edanyini.	<u>A</u> madada <u>a</u> bhukuda edanyini.
Inkomoiwelaumfula.	Inkomo iwela umfula.	<u>I</u> nkomo <u>i</u> wela umfula.
Umntwanauyakhala.	Umntwana uyakhala.	<u>U</u> mntwana <u>u</u> yakhala.
Umuthiumilakahle.	Umuthi umila kahle.	<u>U</u> muthi <u>u</u> mila kahle
Ufuduluhambakancane.	Ufudu luhamba kancane.	<u>U</u> fudu <u>l</u> uhamba kancane.
Ihhashiligijimakakhulu.	Ihhashi ligijima kakhulu.	<u>I</u> hhashi <u>l</u> igijima kakhulu.

Apart from improving their morphological skills, these exercises will also strengthen the learners' understanding of word boundaries and the morphological agreement principle.

These are all characteristics that are relevant for reading (and writing).

The morpheme substitution exercise below can be used to alert the learners to the noun singular and plural formation rules in the language. This exercise will assist the learners to understand the process of plural formation and to grasp the structure and grammatical function of the singular and plural noun class prefixes while they also enhance their reading skills.

They simply place the appropriate plural prefix in the plural prefix column. This would be an appropriate exercise for late Grade 2 or Grade 3 learners. (The teacher can again design her own exercises based on the example below.)

Singular prefix			Plural prefix	
umu	ntu			ntu
umu	zi			zi
i(li)	tshe			tshe
isi	kole			kole
in	yosi			yosi
u(lu)	siba			siba
im	bokodo			bokodo
um	zimba			zimba

aba
ama
imi
izi
izim
izin

aba
imi
ama
izi
izin
izin
izim
imi

Eventually learners need to recognise recurring letter patterns in their language based on orthographic, phonological, morphological, syntactic and semantic information relating to smaller and larger segments of words (Castles *et al.*, 2018; Ehri, 2005; Share, 2008). When beginner readers encounter words frequently, these words become familiar and known, and they recognise word chunks and develop word-specific knowledge that speeds up and automatise the reading process which in turn frees up more short term memory for reading comprehension rather than focusing on word decoding.

Unit 9: Self test questions

1. Define morphology.

2. What are the three types of morphemes?

3. The meaning of a morpheme is context dependent. True/False

4. What does 'productive morphology' mean?

5. What kind of morpheme is the 'ba' in the isiZulu word "bayadlala"?

6. What is agglutination?

10. Developing reading fluency

Preliminary reading

Language and literacy, Unit 13. Automaticity and fluency (pp. 59-60)

Reading Fluency, Unit 1. The meaning of fluency (pp. 3-6)

Oral Reading Fluency (ORF) refers to the process of reading grade appropriate text aloud in a fluent manner (without effort using voice modulation similar to that which applies to spoken language).

What is Oral Reading Fluency?

Reading fluency is the ability to read accurately, quickly and with appropriate expression or prosody (Rasinski, 2003). A beginner reader must strive to read effortlessly and accurately at a grade appropriate rate using tonal voice modulations that resemble spoken language.

The focus is generally on oral reading fluency rather than silent reading fluency because it is much easier to assess oral reading fluency.

Not only are accuracy and reading rate important components of oral reading fluency, prosody or appropriate expression is also an essential component of ORF.

Why is Oral Reading Fluency important?

A considerable body of research has proven a strong relation between oral reading fluency and reading comprehension for students in primary grades. Moreover, oral reading fluency has also been shown to predict students' later reading comprehension achievement (although the strength of this relationship tends to be weaker). Oral reading fluency has been widely used to monitor students' progress in reading in the early elementary grades due to its strong empirical relationship with reading comprehension (Ridel, 2007).

In order to understand what they read, learners have to be able to read fluently, accurately and at an appropriate pace. Attaining a grade level appropriate reading fluency in both oral and silent reading is important.

Since reading fluency is critical for reading comprehension, it is imperative to ensure that learners master this aspect of reading – “automaticity of decoding fluency is essential for high levels of reading achievement” (Pikulski and Chard, 2005). The more a learner struggles to read, the more the short term memory is occupied with the task of decoding text rather than being available for reading comprehension. It is therefore important that the learners should be able to read with grade appropriate fluency.

Kuhn and Stahl (2003), Kuhn *et al.* (2006), and Young, Bowers and MacKinnon (1995) contend that quick word recognition and appropriate application of prosodic features to reading play an important role in facilitating comprehension.



Sesotho and IsiZulu Reading Project

Study guide 2:

Language and Literacy

Primary Teacher Education project
Department of Higher Education and Training



PrimTEd Teaching Reading Study Guides

Study guide 4:

Reading Fluency

Primary Teacher Education project
Department of Higher Education and Training

Appropriate expression entails prosodic features, such as pitch, tone, length, use of pauses, phrasing in line with syntactic structures and stress (though stress does not feature in the African languages). These characteristics play a crucial role in comprehending everyday oral language and are equally important for proper reading comprehension.

Developing oral reading fluency

Creating ample reading opportunities is essential for developing reading fluency. Scholars point out that rereading the same text to increase reading fluency is important, especially for learners who experience reading difficulties.

When selecting materials for rereading, the following are critical factors:

Appropriate level

The texts should be slightly below the learner's instructional level. Being able to read the text with a degree of fluency will give the learner confidence and that will in turn motivate the learner to read even more.

Appropriate topics

The topics of the reading materials should preferably also be of interest to the learners at that particular level. Literature that reflects the linguistic and social contexts with which the readers are familiar will help them develop comprehension skills from the moment they enter school (Schroeder, 2007).

Clear layout and print

The layout and print must be well designed, clear and "child-friendly".

Some repetitive language

Another consideration is to choose familiar books and texts that contain repetitive words and phrases that will contribute to the child developing confidence because of recognizable text.

Avoid texts with predictable texts based upon pictures

Note that the picture books with an illustration and a single (predictable) sentence on each page that depicts the picture, leads to learners memorizing the sentences by associating them with the pictures and may thus mimic reading while actually they are remembering the sentences by association. They thus recite the sentences instead of reading them. This is often a problem in the whole language approach.)

Reread texts and change texts

Learners should practice both rereading texts and reading different texts. Some scholars (notably Hiebert, 1999; Kamil, Mosenthal, Pearson, and Barr, 2000) are of the opinion that creating many opportunities to read a variety of texts rather than only rereading the same text is more conducive to obtaining reading fluency. It is probably important to let the learners reread texts (especially those that struggle to read) but also to let them read a variety of texts and different genres.

Developing fluent reading can take place during read-alouds, choral readings and shared readings and can include teacher think-alouds where all aspects of fluency, as well as comprehension skills and strategies are shared with learners.

Meaning is transmitted not only in the words, but also in the way words are expressed. It is essential to teach students to phrase parts of sentences into syntactically appropriate units and to explain to them why a story is read in a particular way.

Levels of fluency

Fluent reading applies to various levels, namely the sub-lexical (word parts), word, and connected text level. Word-level fluency (fluency at decoding words in isolation) is measured by measuring how fast and accurately learners can read lists of words orally.

Although there is an overlap between what is measured by separate word reading fluency and connected text reading fluency, connected text reading fluency typically predicts reading comprehension (Ehri and Wilce, 1983; Jenkins Fuchs, van den Broek, Espin, and Deno, 2003a; Stanovich, 1980). The ability to read connected text fluently is one of the essential requirements for successful reading comprehension (Adams, 1990; Fuchs, Fuchs, Hosp, and Jenkins, 2001; National Institute of Child Health and Human Development, 2000; Schatschneider *et al.*, 2004). Connected text reading fluency is influenced by various oral language skills in addition to decoding skills and comprises both word level reading skills and language processing/comprehension skills (Jenkins *et al.*, 2003a, 2003b), Fuchs, van den Broek, Espin, and Deno, 2003a, 2003b; Wolf and Katzir-Cohen, 2001).

Comprehension also includes the ability to use background or prior knowledge to derive meaning from what is read (Hudson, 2007). Reading comprehension research indicates that readers construct meaning by combining the information in the text with what they already know (Piper, Zuilkowski, and Mugenda, 2014; Samuels, 2006). Reading comprehension is “the process of simultaneously extracting and constructing meaning through interaction and involvement with written language” (Snow, 2002, pp. xiii).

Learners generally show a high correlation between their ability to read at the different levels, namely at the sub-lexical, word, and passage levels (Kluda and Guthrie, 2008; Kim, Wagner, and Foster, 2011).. In other words, learners who demonstrate strong reading comprehension skills are also able to:

- (a) recognise isolated words fast,
- (b) process phrases and sentences with relative ease, and
- (c) apply appropriate expression when reading narrative texts or information texts.

Developing silent reading fluency

Some recent evidence suggests that it is important and beneficial for learners to receive systematic instruction in guided or **scaffolded** silent reading in addition to oral reading in order to develop their silent reading fluency and reading comprehension. The lack of attention to silent reading fluency may be due to the assumption that silent reading fluency may develop naturally from oral reading fluency (Trainin *et al.*, 2009) and it has the same underlying reading skill.

However, the skills involved in oral reading are not merely transferrable to silent reading. This is because there are multiple processes that account for relations

scaffolded reading: the teacher breaks up a text into smaller chunks with activities (such as appropriate questions about the story and characters) to help the child manage the reading. It is a temporary support measure.

between fluency and comprehension, amongst others, background knowledge, vocabulary and syntactic knowledge.

Oral and silent reading fluency tasks measure learners' distinct though highly related underlying skills. Although the principles for teaching oral reading and silent reading may be, to some extent similar, these two forms of reading are different, and it cannot be assumed that fluent oral reading necessarily leads to fluent silent reading. However, oral reading fluency remains a better predictor of reading comprehension than silent reading fluency for beginner readers.

Van den Boer, Van Bergen, E. & De Jong (2014), studying Dutch Grade 4 readers, found that oral and silent reading performance is fairly similar, based on the reading-related cognitive skills, phonemic awareness, **rapid naming** and **visual attention span**. Visual attention span, however, showed a significant unique contribution to silent reading in particular, while the relation of rapid naming with silent reading was not as strong as with oral reading.

The limitations of oral reading fluency

Despite the importance of oral reading fluency, in itself fluency is not sufficient for attaining comprehension (Paris, Carpenter, Paris, and Hamilton, 2005, Paris, 2005). Reading comprehension is a complex cognitive skill that is affected by multiple skills (Cutting & Scarborough, 2006; Katzir, Lesaux, and Kim, 2009; Keenan *et al.*, 2008, Seidenberg, 2017).

Research shows that the relationship between learners' reading fluency and reading comprehension in a multilingual context is influenced by an array of factors, inter alia the level of (1) vocabulary, (2) oral language skills, (3) understanding of grammar, (4) listening comprehension in the particular language, (5) the quality of the reading instruction, and (6) the linguistic and socioeconomic situation at home.

Also bear in mind that factors such as: (1) the degree of transparency of the orthography, (2) word length, (3) and morphological complexity of the language, (4) the learner's background knowledge, and (5) level of cognitive development also impact on reading comprehension.

Studies on the lack of reading fluency

It is not only in South Africa where the reading skills of learners are weak. The Uwezo initiative in Kenya, Tanzania and Uganda – a five year project that aimed to improve competencies in literacy and numeracy among primary school children aged 6-16 years old (Uwezo, 2011, 2012, 2013) found that seven out of 10 children in third grade could not read a Grade 2 level passage.

Piper *et al.* (2016) analysed student reading outcomes in four languages in Kenyan schools in two provinces, namely English, Kiswahili, Dholuo and Gikuyu. The reading development in these languages was explored using data from a 2009 **Early Grade Reading Assessment (EGRA)**. The focus was on the relationship between oral reading fluency and reading comprehension in these languages and to explore the implications of these relationships for Kenyan language policy. The learners were assessed in more than one language, and

rapid naming: this is the testing of the ability to give the appropriate names to common objects, colours and letters and numbers. Rapid Automatized Naming (RAN) shows the ability to rapidly and automatically retrieve information without effort.

visual attention span: the number of distinct visual elements that can be processed simultaneously (at a glance) in a multi-element configuration. In reading this means how many letters can be given attention simultaneously.

Early Grade Reading Assessment (EGRA): an internationally used individually administered oral assessment of the most basic foundation skills for literacy acquisition in early grades. It is available in many languages.

their classrooms were observed to determine what languages of instruction were being used. The study assessed 2,000 learners in Grade 3. Grade 3 was chosen because by then the learners would have had time to learn fundamental reading skills. The learners were assessed in English and Kiswahili, and in rural schools, in Dholuo or Gikuyu as well. While these learners were able to read English words more easily compared to reading words in Kiswahili or Dholuo or Gikuyu (their first language) their reading comprehension in English was significantly lower than in Kiswahili Gikuyu or Dholuo. This means that the learners could decode the English words (because of their training) but lacked the grammatical knowledge and vocabulary in English to enable them to read English texts with comprehension. On the other hand, their comprehension of text written in the African language was higher even though they were not able to decode their first language effectively.

This study suggests that emphasising English reading fluency is an inefficient route to gaining reading comprehension skills because learners are actually attaining minimal oral reading fluency in English and only modest comprehension skills in their own languages.

The evidence also demonstrates that Kenya's national language policy of mother tongue as a medium of instruction in the early primary grades is consistently ignored in practice. The conclusion is that if teachers are appropriately trained to teach reading in Home Languages and they teach reading in these languages correctly and with devotion, and suitable books are available, learners will benefit greatly. This conclusion is replicated in research in the United States of America, Nigeria, Ethiopia, Mali and Zambia. The use of the mother tongue (at the initial stages of schooling) leads to better student achievement.

Assessing successful reading

Given that successful reading depends on both language comprehension and competency in decoding, it is essential to determine whether a struggling beginner reader is lacking in language comprehension or decoding competency. It is essential to determine the cause of poor reading comprehension in order to decide on a remedial intervention.

The level of decoding skills of younger children (at Grade R and early Grade 1 level) may be assessed initially by determining their letter-name and letter-sound knowledge. However, the emphasis is generally much more on letter-sound knowledge.

Letter-sound knowledge entails the quick and accurate identification of the sounds that letters represent. By the end of Grade 1 learners are expected to correctly recognise 40 letter-sounds per minute, whatever the language.

From Grade 2 onwards the decoding skills are measured through oral reading fluency.

Assessing language comprehension

Two tests generally used to determine the level of language comprehension are listening comprehension tasks and vocabulary tests. The two competencies of listening comprehension and vocabulary knowledge are good indicators of language comprehension.

Assessing Oral Reading Fluency

Oral reading fluency is fundamental in developing reading comprehension and it is thus important to assess the ORF of Foundation Phase learners regularly.

The most common way to measure reading fluency is to calculate the number of correct words read per minute (wcpm) in oral reading.

The short texts used for checking reading fluency are ones that are at the appropriate reading level and on which learners should achieve nearly 100 per cent accuracy when reading on their own. Such measurement should only be done after the learners have had sufficient practice reading such texts and received feedback from the teacher on their reading.

But how many words a minute does the average schoolchild in a particular grade read accurately in minute? This is what we call a norm. A different question is how many words should be read a minute? This is a goal, a target, or minimum level of achievement. This measurement is called a benchmark.

Oral reading fluency norms and benchmarks must be language-specific because orthographic complexity, word length and morphological complexity varies between languages and these characteristics have a profound impact on reading fluency of the beginner reader.

English norms (standardised in North America and the United Kingdom) are not directly comparable with those for agglutinating African languages.

While the highly transparent orthographies of the African languages facilitate reading fluency, the polyphonemic syllable and polymorphemic word structures of these languages pose challenges to the beginning reader. In addition the orthography of the Nguni languages poses several challenges for readers as their agglutinative structure and conjoined orthography give them unusually long and complex words.

English has relatively short words and a less complex morphology which makes it easier to read, but on the other hand, its orthography is strongly opaque which leads to reading difficulties for the beginner reader.

English ORF benchmarks are 60 wcpm for Grade 1, 100 for Grade 2 and 112 for Grade 3 (Hasbrouck and Tindal, 2017). Learners for whom English is not a home language would have lower benchmarks.

Norms and benchmarks for all South African languages are currently being developed (Spaul and Pretorius, 2015; Pretorius and Mohohlwane, 2020; Ardington *et al.*, 2020).

The following are some current suggested benchmarks.

norm: describes something that is usual, typical or standard for a particular group of things. In education it describes an average level of performance or achievement of a group or class. It is a peer comparison. The teacher can compare a learner's score to the scores of other same-grade learners in the class, school, nation, or internationally.

benchmark: a goal or target that students should meet to be successful. Often, in education, a benchmark is the minimum or threshold score that a learner needs to be considered successful or able to do something.

Minimum ORF benchmarks in WCPM for African languages

Grade	Disjunctive	Conjunctive
1	40	20
2	50	24
3	60	35
4	75	40
5	90	50
6	100	60

The benchmark or threshold levels for Grades 2 and 3 differ between the Nguni and Sotho language groups. A comparison between the number of words for identical isiZulu and Sesotho texts reveals that Sesotho texts have approximately 55% more orthographical words than isiZulu. Based on this finding, we therefore postulate that the threshold levels for Sesotho learners should be 40 words read correctly per minute at the end of Grade 1, and 60 words per minute read correctly at the end of Grade 3. By the end of Grade 2 (isiZulu) learners should be able to read a minimum of 24 words correct per minute. This is the minimum threshold level, which means that if a learner fails to reach this level, he or she will make very little progress. By the end of Grade 3 the benchmark for isiZulu learners is that they should be able to read a minimum of 35 words correct per minute, for Sesotho learners 60 wcpm. No learner should read at less than benchmark words per minute at the end of the grade.

Transferring reading skills from one language to another

After a learner has become a proficient reader in the Home Language, several reading skills readily transfer to a second and ensuing language. Koda (2008) notes that the transfer of literacy ability from one language to another may occur after the reader grasps three universals, namely: (a) print relates to speech; (b) speech can be segmented into a sequence of sounds; and (c) these sounds relate systematically to the graphic symbols in the particular orthography.

Despite the similarities in learning to read in the Home Language as opposed to the First Additional Language (FAL) (which is generally English in the South African context) or any subsequent language, the successful development of reading in the FAL will not happen automatically. Reading development in a FAL (or subsequent language) depends, inter alia on the learner's knowledge of the target language, which includes oral fluency, phonological and morphological awareness, the vocabulary of the target language, and comprehension of its grammar.

Unit 10: Self test questions

1. What is it for a child to read fluently?

2. What are typical features of prosody?

3. What is the problem with reading books with pictures and a predictable text.

4. How can you measure word-level fluency?

5. Oral reading fluency can be influenced by a wide range of factors. List at least six.

6. What does EGRA stand for?

7. What should be assessed in Grade R and early Grade 1?

8. What does WCPM stand for?

9. Grade 1 ORF wcpm benchmarks for English and African languages range from which: 20 to 60/ 50 to 90/60 to 100/ wcpm?

References

- Adams . 1990. Adams, M.J. 1990. *Beginning to read: Thinking and learning about print*. Cambridge, Massachusetts: MIT Press.
- Ardington, C., Wills, G., Pretorius, E., Deghaye, N., Mohohlwane, N., Menendez, A., Mtsatse, N. and van der Berg, S. 2020. *Summary Report: Benchmarking framework for early grade reading literacy skills in the Nguni languages*. Stellenbosch: ReSEP, Stellenbosch University. Cape Town: SALDRU, University of Cape Town. Chicago: NORC at the University of Chicago.
- Aro, M. and Wimmer, H. 2003. *Learning to read: English in comparison to six more regular orthographies*. *Applied Psycholinguistics*, Volume 24 Number 4, pp. 621–635 [DOI:10.1017/S0142716403000316](https://doi.org/10.1017/S0142716403000316)
- Badian, N. A. 1995. *Predicting reading ability over the long term: The changing roles of letter naming, phonological awareness and orthographic processing*. *Annals of Dyslexia*, Volume 45, pp. 79–96.
- Berninger, V. W., Abbott, R. D., Billingsley, F., and Nagy, W. 2002. *Processes underlying timing and fluency of reading: Efficiency, auto-maticity, coordination, and morphological awareness*. In Wolf, M. (Ed.). *Dyslexia, fluency, and the brain*. Timonium, Maryland: York Press, pp. 383–414.
- Borleffs, E., Maassen, B.A.M., Lyytinen, H., and Zwarts, F. 2017. *Measuring orthographic transparency and morphological-syllabic complexity in alphabetic orthographies: a narrative review*. *Reading and Writing*, 2017, Volume 30. Number 8, pp. 1617–1638 [DOI: 10.1007/s11145-017-9741-5](https://doi.org/10.1007/s11145-017-9741-5)
- Carreker, S. 2020. *Trust the science of reading to inform instruction*. <https://www.lexialearning.com/resources/white-papers/trust-science-reading-inform-instruction>
- Castles, A., Rastle, K., and Nation, K. 2018. *Ending the reading wars: Reading acquisition from novice to expert*. *Psychological Science in the Public Interest*, Vol. 19, No. 1, pp. 5–51. <https://journals.sagepub.com/doi/10.1177/1529100618772271>
- Chall, J. S. 1983. *Stages of reading development*. New York, New York: McGraw-Hill
- Cutting L.E. and Scarborough H.S. 2006. *Prediction of reading comprehension: Relative contributions of word recognition, language proficiency, and other cognitive skills can depend on how comprehension is measured*. *Scientific Studies of Reading*. Vol 10, pp 277–299.
- Dehaene, S. 2009. *Reading in the brain: The new science of how we read*. New York, New York: Penguin Books.

Department of Basic Education. 2011. *Curriculum and Assessment Policy. Foundation Phase. Grades R-3. English Home Language*. Pretoria: Department of Basic Education

<https://www.education.gov.za/Portals/0/CD/National%20Curriculum%20Statements%20and%20Vocational/CAPS%20English%20HL%20 GRADES%20 R-3%20FS.pdf?ver=2015-01-27-154201-167>

Department of Basic Education. 2020. *National Framework for the Teaching of reading in African Languages in the Foundation Phase*. Pretoria: Department of Basic Education

<https://www.jet.org.za/clearinghouse/projects/printed/curriculum-frameworks/literacy-curriculum-frameworks/national-framework-for-the-teaching-of-reading-in-african-languages-in-the-fp-201907.pdf>

Department of Education and Skills. 2007. *Letters and Sounds: Principles and Practice of High Quality Phonics*. London: Department of Education and Skills.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/190599/Letters_and_Sounds_-_DFES-00281-2007.pdf

Durrell, D.D. 1980. *Commentary: Letter-Name values in reading and spelling*, *Reading Research Quarterly*, Volume 16, Number 1, pp. 159-163

Ehri, L. 1986. *Sources of difficulty in learning to spell and read*. In: Wolraich, M. and Routh, D. (Eds). *Advances in developmental and behavioral pediatrics*. Greenwich, Connecticut: JAI Press, pp. 121-195

Ehri, L. C. 2005. *Learning to read words: Theory, findings and issues*. *Scientific studies of reading*, Vol. 9, No. 2, pp. 167-188.

Ehri, L. C., and Wilce, L. S. 1983. *Development of word identification speed in skilled and less skilled beginning readers*. *Journal of Educational Psychology*, Vol. 75, No. 1, pp. 3-18

Evans, M. A., Bell, M., Shaw, D., Moretti, S., and Page, J. 2006. *Letter names, letter sounds and phonological awareness: An examination of kindergarten children across letters and of letters across children*. *Reading and Writing*, Volume 19, Number 9, pp. 959-989.

Fillmore, L.W. and Snow, C.E. 2000. *What teachers need to know about language*. ERIC Clearinghouse on Language and Linguistics Special Report.

<https://eric.ed.gov/?id=ED444379>

Foulin, J.N. 2005. *Why is letter-name knowledge such a good predictor of learning to read?* *Reading and Writing*, Volume 18, pp. 129-155.

<https://doi.org/10.1007/s11145-004-5892-2>

Fricke, S., Szczerbinski, M., Fox-Boyer, A. and Stackhouse, J. 2016. *Predictors of literacy acquisition in German*. *Reading Research Quarterly*, Vol. 1, No. 51, pp. 29-53.

<https://doi.org/10.1002/rrq.116>

Fuchs, L. S., Fuchs, D., Hosp, M. K. and Jenkins, J. R. 2001. *Oral Reading Fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis*. *Scientific Studies of Reading*, Vol.5, pp. 239-256.

- Fuchs, L.S. and Vaughn, S. 2012. *Responsiveness-to-Intervention: A decade later. Journal of Learning Disabilities*. Vol. 45, No. 3, pp. 195-203.
- Furnes, B. and Samuelsson, S. 2011. *Phonological awareness and rapid automatized naming predicting early development in reading and spelling: Results from a cross-linguistic longitudinal study. Learning and Individual Differences*, Vol. 21, pp. 85-95.
<https://doi.org/10.1080/02572117.2015.1113000>
- García, J. R., Cain, K. 2014. *Decoding and reading comprehension: A meta-analysis to identify which reader and assessment characteristics influence the strength of the relationship in English. Review of Educational Research*, Vol. 84, No. 1, pp. 74-111.
<https://journals.sagepub.com/doi/10.3102/0034654313499616>
- Gibson, E.J. and Levin, H. 1975. *The psychology of reading*. Cambridge, Massachusetts: MIT Press
- Gough, P. and Tunmer, W. 1986. *Decoding, reading, and reading disability. Remedial and Special Education*, Vol. 7, pp. 6-10.
- Grainger, J. and Johannes C. Ziegler, J.C. 2011. *A Dual-Route approach to Orthographic Processing. Frontiers in Psychology*, 2011, Volume 2
<https://pubmed.ncbi.nlm.nih.gov/21716577/>
- Hasbrouck, J. and Tindal, G. 2017. *An update to compiled ORF norms (Technical Report No. 1702)*. Eugene, Oregon: Behavioral Research and Teaching, University of Oregon.
<https://intensiveintervention.org/sites/default/files/2017%20ORF%20NORMS%20PDF.pdf>
- Hiebert, E. 1999. *Text matters in learning to read. The Reading Teacher*, Vol. 52, pp. 552-568
- Howie, S.J., Venter, E., van Staden, S., Zimmerman, L., Long, C., du Toit, C., Scherman, V., and Archer, E. 2008. *PIRLS 2006 Progress in International Reading Literacy Study 2006: South African Children's Reading Literacy Achievement. Summary Report*. Pretoria: Centre for Evaluation and Assessment, University of Pretoria.
- Howie, S.J., Combrinck, C., Roux, K., Tshele, M., Mokoena, G.M., and McLeod Palane, N. 2017. *PIRLS Literacy 2016 Progress in International Reading Literacy Study 2016: South African Children's Reading Literacy Achievement*. Pretoria: Centre for Evaluation and Assessment, University of Pretoria.
https://repository.up.ac.za/bitstream/handle/2263/65780/Howie_PIRLS%28Grade4%29_2017.pdf
- Hudson, T. 2007. *Teaching Second Language Reading*. New York, New York: Oxford University Press
- Jenkins, J. R., Fuchs, L. S., van den Broek, P., Espin, C. and Deno, S. L. 2003a. *Accuracy and fluency in list and context reading of skilled and RD groups: Absolute and relative performance levels. Learning Disabilities Research & Practice*, Vol. 18, pp. 237-245

- Jenkins, J. R., Fuchs, L. S., van den Broek, P., Espin, C. and Deno, S. L. 2003b. *Sources of individual differences in reading comprehension and reading fluency*. Journal of Educational Psychology, Volume 95, No. 4, pp. 719–729.
- Kamil, M., Mosenthal, P., Pearson, D. and Barr, R. 2000. *Handbook of Reading Research, Volume III*. New York, New York: Routledge
- Katzir, T., Leseaux, N. and Kim, Y-S. 2009. *Reading self concept and reading comprehension for middle grade elementary school children*. *Reading and Writing* Vol. 22, pp. 261–276.
- Keenan, J.M., Betjemann, R.S., Olson, R.K. 2008. *Reading comprehension tests vary in the skills they assess: Differential dependence on decoding and oral comprehension*. *Scientific Studies of Reading*, Vol. 12, pp. 281–300.
- Kim, Y.S., Wagner, R.S. and Foster, E. 2011. *Relations among Oral Reading Fluency, Silent Reading Fluency, and Reading Comprehension: A Latent Variable Study of First-Grade Readers*. *Scientific Studies of Reading*, Vol. 15, No. 4, pp. 338-362.
- Klauda, S.L. and Guthrie, J.T. 2008. *Relationships of three components of Reading Fluency to Reading Comprehension*. *Journal of Educational Psychology*. Vol. 100, Number 2, pp. 310–321
<https://psycnet.apa.org/doiLanding?doi=10.1037%2F0022-0663.100.2.310>
- Koda, K., and Zehler, A. M. (Eds). 2008. *Learning to read across languages: Cross-Linguistic relationships in first- and second-language literacy development*. London: Routledge
- Kruk, R.S. and Bergman, K. 2013. *The reciprocal relations between morphological processes and reading*. *Journal of Experimental Child Psychology*. Vol. 114, pp. 10-34
- Kuhn M.R., Schwanenflugel P.J., Morris R.D., Morrow L.M., Woo D.G., Meisinger E.B., Sevcik R.A., Bradley, B.A. and Stahl, S.A. 2006. *Teaching children to be fluent and automatic readers*. *Journal of Literacy Research*. Vol. 38, pp. 357-387.
- Kuhn, M. R. and Stahl, S. A. 2003. *Fluency: A review of developmental and remedial practices*. *Journal of Educational Psychology*, Vol. 95, pp. 3–21.
- Land, S. 2015. *Zulu orthography and reading*. *South African Journal of African Languages*, Vol. 35, No. 2.
<https://doi.org/10.1080/02572117.2015.1113000>
- Land, S. 2016. *Automaticity in reading isiZulu*. *Reading & Writing*, Volume 7 No. 1.
<https://rw.org.za/index.php/rw/article/view/90/235>
- Manolitsis, G. and Tafa, E. 2011. *Letter-name letter-sound and phonological awareness: Evidence from Greek-speaking kindergarten children*. *Reading and Writing*, Volume 24, pp. 27-53.
- Mullis, I.V.S., Martin, M.O., Kennedy, A.M., Trong, K.L. and Sainsbury, M. 2009. *PIRLS 2011 Assessment Framework*. Boston: Massachusetts: TIMSS & PIRLS International Study Center Lynch School of Education, Boston College.

- Muter, V. and Diethelm, K. 2001. *The contribution of phonological skills and letter knowledge to early reading development in a multilingual population. Language learning*, Volume 51, pp. 187-219.
- National Institute of Child Health and Human Development. 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 : reports of the subgroups*. Washington, DC.: National Institute of Child Health and Human Development
- Nieto, J.E. 2005. *Analysis of difficulties in understanding and applying the alphabetic principle. Journal of Research in Educational Psychology*, Volume 2 Number 2, pp. 75-104
- O'Carroll, S. 2011. *An exploratory study of early letter-sound knowledge in a low socio-economic context in South Africa. Reading & Writing*, Volume 2, Number 1, pp. 1-25.
<https://doi.org/10.4102/rw.v2i1.10>
- Ouellette, G., Senechal, M., and Haley, A. 2013. *Guiding children's invented spellings: A gateway into literacy learning. The Journal of Experimental Education*, Vol. 81, No. 2, pp. 261-279.
- Paris, S.G. 2005. *Reinterpreting the development of reading skills. Reading Research Quarterly*, Vol. 40, No. 2, pp. 184-202.
- Paris, S. G., Carpenter, R. D., Paris, A. H. and Hamilton, E. E. 2005. *Spurious and genuine correlates of children's reading comprehension*. In S. G. Paris, S.G. and Stahl, S.A. (Eds.) *Children's reading comprehension and assessment*. Mahwah, New Jersey: Erlbaum, pp. 131-160)
- Parker, S. 2019a. *Reading instruction and phonics. Theory and practice for teachers*. Second edition. Boston, Massachusetts: Royce-Kotran Publishing
https://www.parkerphonics.com/files/ugd/fd6834_e358dbf025914268ab81c7cfd0cfd6c.pdf
- Parker, S. 2019b. *Synthetic Phonics: What it Is and What it Is Not*. [Blog post].
<https://www.parkerphonics.com/post/synthetic-phonics-what-it-is-and-what-it-ain-t>
- Pikulski, J.J. and Chard, D.J. 2005. *Fluency: Bridge between decoding and reading comprehension. The Reading Teacher*, Vol. 58, No. 6 March 2005, pp. 510-519
- Piper B., Schroeder, L. and Trudell, B. 2016. *Oral reading fluency and comprehension in Kenya: reading acquisition in a multilingual environment. Journal of Research in Reading*, Vol. 39, No. 2, pp. 133-152.
- Piper, B., Zuilkowski, S. S. and Mugenda, A. 2014. *Improving reading outcomes in Kenya: First-year effects of the PRIMR Initiative. International Journal of Educational Development*, Vol. 37, pp. 11- 21.
- Posthumus, L. C. 1994. *Word-based versus root-based morphology in the African languages. South African Journal of African Languages*, Vol. 14, No. 1, pp. 28-36.

Pretorius, E. J. and Mokhwesana, M. M. 2009. *Putting reading in Northern Sotho on track in the early years: changing resources, expectations and practices in a high poverty school*. *South African Journal of African Languages*, Vol. 1, No. 1, pp. 54-73.

Pretorius, E. J. and Murray, S. 2019a. *The expert reading teacher*. Johannesburg: Zenex Foundation.

<https://admin.jet.org.za/clearinghouse/projects/printed/materials/language-and-literacy-materials-repository/zenex-the-expert-reading-teacher-materials.pdf/view>

Pretorius, E.J. and Murray, S. 2019b. *Teaching reading comprehension*. Cape Town: Oxford University Press.

Primary Teacher Education project. 2021. *Primary Teacher Education project (PrimTEd)*. [Website].

<https://www.jet.org.za/clearinghouse/projects/printed>

Rasinski, T. V. 2003. *The fluent reader: Oral reading strategies for building word recognition, fluency, and comprehension*. New York: Scholastic.

Reutzel, D.R. 2015. *Early literacy research: findings primary-grade teachers will want to know*. *The Reading Teacher*, Volume 69, Number 1, pp. 14-24.

Samuels, S. J. 2006. *Towards a model of reading fluency*. In: Samuels, S.J. and Farstrup, A. E. (Eds). *What research has to say about fluency instruction*. Newark, Delaware: International Reading Association, pp.24-46

Scarborough H. S. 2001. *Connecting early language and literacy to later reading (dis)abilities: Evidence, theory, and practice*. In: Neuman., S. and Dickinson, D. (Eds), *Handbook for research in early literacy*. New York: Guilford Press, pp. 97-110.

Schaefer, M. 2021. *Phonological processing skills and their longitudinal relation to first and additional language literacy in isiXhosa and isiZulu speaking children*. OSF. August 2. doi:10.17605/OSF.IO/GMNWS.

<https://osf.io/gmnws/#!>

Schatschneider, C., Fletcher, J., Francis, D., Carlson, C. and Foorman, B. 2004. *Kindergarten prediction of reading skills: A longitudinal comparative analysis*. *Journal of Educational Psychology*, Vol. 96, pp. 265-282.

Schroeder, L. 2007. *Promoting cognitive development in children from minority language groups*. *International Journal of Learning: Annual Review*, Volume 12, No. 7, pp. 179-188

Schwartz S. and Sparks, S.D. 2019. *How do kids learn to read? What the science says*. *Education Week*. October 2, 2019., pp. 2-3.

Seymour, P.H., Aro, M. and Erskine, J.M. 2003. *Foundation literacy acquisition in European orthographies*. *British Journal of Psychology*, Volume 94, pp. 143-174

Share, D.L. 2004. *Orthographic learning at a glance: On the time course and developmental onset of self-teaching*. *Journal of Experimental Child Psychology*, Volume 87, pp. 267-293.

Share, D.L. 2008. *Orthographic learning, phonological recording and self-teaching*. *Advances in child development and behaviour*, 36, 31-82.

Share, D. L., Jorm, A. F., Maclean, R., and Matthews, R. 1984. *Sources of individual differences in reading acquisition*. *Journal of Educational Psychology*, Volume 76, pp. 1309-1324.

Seidenberg, M. 2017. *Language at the speed of sight: How we read, what many can't read, and what can be done about it*. New York, New York: Basic Books.

Snow, C.E. 2002. *Reading for understanding: Toward an RandD program in reading comprehension*. Santa Monica, California: RAND Corporation

Snow, P. 2019. *Dear Parents: Welcome to the confusing world of reading instruction*. <http://pamelasnow.blogspot.com/2019/08/der-parents-welcome-to-confusing-world.html>

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

Snow, P. and Serry, T. 2019. *Why every child needs explicit phonics instruction to learn to read*. *The Conversation*. <https://theconversation.com/why-every-child-needs-explicit-phonics-instruction-to-learn-to-read-125065>

Spaull, N. and Pretorius, E. 2015. *Exploring relationships between Oral Reading Fluency and comprehension amongst ESL learners in South Africa*. Presentation to Economic Society of South Africa, University of Cape Town on 4 September 2015

<https://www.jet.org.za/clearinghouse/printed/resources/language-and-literacy-resources-repository/spaull-2015-essa-sept-conference-orf.pdf/download>

Spaull, N., Pretorius, E. and Mohlwané, N. 2020. *Investigating the comprehension iceberg: Developing empirical benchmarks for early-grade reading in agglutinating African languages*. *South African Journal of Childhood Education*, Volume 10, Number 1, pp. 1-14.

Sprenger-Charolles, L., Siegel, L. S., Béchennec, D, and Serniclaes, W. 2003. *Development of phonological and orthographic processing in reading aloud, in silent reading and in spelling: A four year longitudinal study*. *Journal of Experimental Child Psychology*, Vol. 84, pp. 194-217.

Spencer, E. J., Spencer, T. D., Goldstein, H. and Schneider, N. 2013. *Identifying early literacy learning needs: Implications for child outcome standards and assessment systems*. In: Shanahan, T. and Lonigan, S. (Eds). *The National early literacy panel and beyond*. Baltimore, Maryland: Brookes Publishing.

Stanovich, K.E 1980. *Toward an Interactive-Compensatory Model of Individual Differences in the Development of Reading Fluency*. *Reading Research Quarterly*, Vol. 16, No. 1, pp. 32-71

Torppa, M., Georgiou, G.K., Lerkkanen, M-K., Niemi, P., Poikkeus, A-M., and Nurmi, J.E. 2016. *Examining the Simple View of Reading in a Transparent Orthography: A Longitudinal Study From Kindergarten to Grade 3*. *Merrill-Palmer Quarterly*, Vol. 62, No. 2 April 2016, pp. 179-206

Torppa, M., Poikkeus, A.-M., Laakso, M.-L., Eklund, K., and Lyytinen, H. 2006. *Predicting delayed letter name knowledge and its relation to grade 1 reading achievement in children with and without familial risk for dyslexia. Developmental Psychology*, Vol. 426, pp. 1128-1142.

Trainin, G., Javorsky, K., Murphy, M., and Wilson, K.A.C 2009. *Nebraska Reading First: Year Five of Implementation 2008-2009. Research and Evaluation in Literacy*. Lincoln, Nebraska: University of Nebraska Lincoln Digital Commons.

Treiman, R., Kessler, B. and Cury Pollo, T. 2006. *Learning about the letter name subset of the vocabulary: Evidence from US and Brazilian pre-schoolers. Applied Psycholinguistics*, Volume 27, pp. 211-227.

Tunmer, W.E., and Hoover. W.A. 2019. *The cognitive foundations of learning to read: a framework for preventing and remediating reading difficulties. Australian Journal of Learning Difficulties*, Vol 24, No. 1, pp. 75-93,.
[DOI: 10.1080/19404158.2019.1614081](https://doi.org/10.1080/19404158.2019.1614081)

Uwezo East Africa Report. 2011. *Are Our Children Learning? Numeracy and Literacy across East Africa*. Nairobi, Kenya.

Uwezo East Africa Report. 2012. *Are our Children Learning? Literacy and Numeracy across East Africa*. Nairobi, Kenya.

Uwezo East Africa Report. 2013. *Are our Children Learning? Literacy and Numeracy across East Africa*. Nairobi, Kenya.

Van den Boer, M., Van Bergen, E. and De Jong, P. F. 2014. *Underlying skills of oral and silent reading. Journal of Experimental Child Psychology*, Vol. 128, pp. 138-151.

Van Rooy, B. and Pretorius E.J. 2013. *Is reading in an agglutinating language different from an analytic language? An analysis of isiZulu and English reading based on eye movements. Southern African Linguistics and Applied Language Studies*, Vol. 31, No. 3, pp.281-297
DOI:10.2989/16073614.2013.837603

Von Staden, P. M. S. 1974. *Die ideofoon in Zulu*. Unpublished D Litt thesis. Johannesburg: Rand Afrikaans University.

Willingham, D. T. 2017. *The reading mind*. San Francisco: Jossey-Bass A Wiley Brand.

Wilsenach, C. 2019. *Phonological awareness and reading in Northern Sotho - Understanding the contribution of phonemes and syllables in Grade 3 reading attainment. South African Journal of Childhood Education* 91, 1-10.
<https://doi.org/10.4102/sajce.v9i1.647>

Wolf, M., and Katzir-Cohen, T. 2001. *Reading fluency and its intervention. Scientific Studies of Reading*, Vol. 5, pp. 211-239.

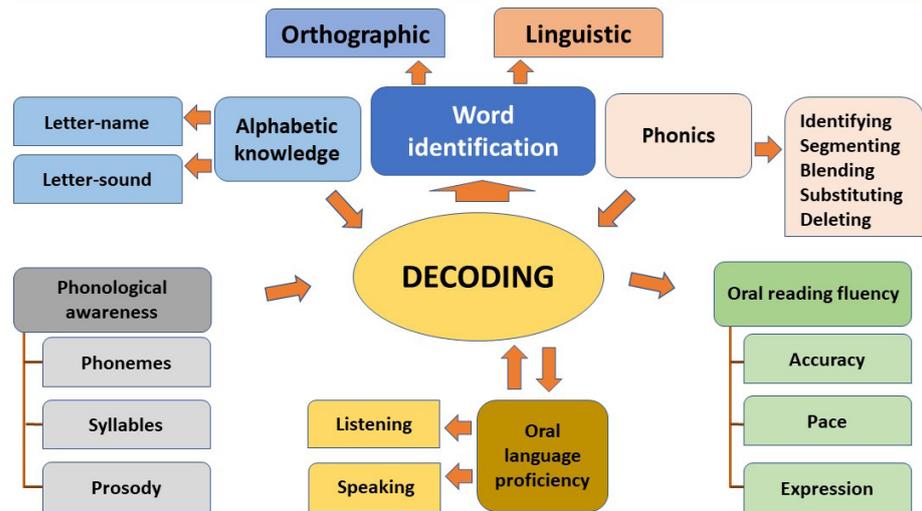
Yalukanda, C. K. 2020. *Assessing and validating early grade teachers' knowledge of vowel letter sounds of transparent Zambian Bantu languages using computer based Grapholearn technology*. MA dissertation. University of Jyväskylä, Finland.

Young, A. R., Bowers, P. G., and MacKinnon, G. E. 1996. *Effects of prosodic modeling and repeated reading on poor readers' fluency and comprehension*. *Applied Psycholinguistics*, Volume 17, Issue 1, pp. 59–84.

Ziegler, J. C. and Goswami, U. 2006. *Becoming literate in different languages: similar problems, different solutions*. *Developmental Science*, Volume 9, Number 5, pp. 429-453.

Zhou, K. 2018. *APM Reports. Hard Words: Why aren't kids being taught to read?* <https://www.apmreports.org/story/2018/09/10/hard-words-why-american-kids-arent-being-taught-to-read>

Knowledge and competencies needed for decoding



Appendix A:

IsiZulu phonemes

This list of isiZulu phonemes is divided into three sections, namely vowel phonemes, consonant phonemes and click consonant phonemes.

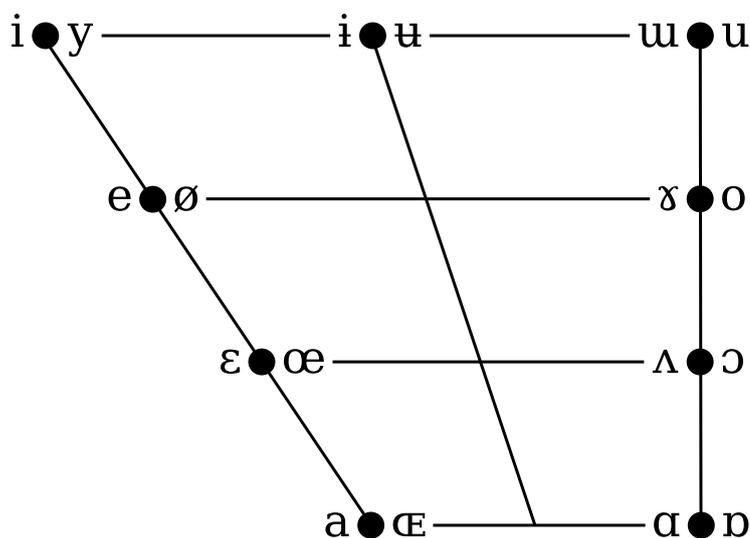
In the lists below the phoneme is written in International Phonetic Alphabet (IPA) script between square brackets, followed by a phonetic description of each phoneme. Then is shown how the particular phoneme is represented in the standard orthography, followed by an example in a word.

The isiZulu vowel phonemes

IsiZulu has five basic vowel phonemes.

[i] - high front vowel	written as i	in the word ipiki
[ɛ] - mid-low front vowel	written as e	in the word iselesele
[a] - low middle vowel	written as a	in the word amanzi
[ɔ] - mid-low back vowel	written as o	in the word obaba
[u] - high back vowel	written as u	in the word ufudu

These vowels appear close to the cardinal positions on the vowel chart (shown below):



(The raised vowels [e] and [o] do not constitute separate phonemes. They are variants of the phonemes [ɛ] and [ɔ].)

The isiZulu consonant phonemes

The consonants of isiZulu are listed below using the same basic format as that used for the description of the vowel phonemes.

[b] - bilabial, voiced, medial, plosive	written as b	in the word imb azo
[ɓ] - bilabial, voiced, medial, implosive	written as b	in the word upelepele uyab aba
[ɓ̤] - bilabial, breathy voiced, medial, plosive	written as bh	in the word ukub h ala
[pʰ] - bilabial, voiceless, medial, plosive	written as p	in the word ip i pi
[pʰ] - bilabial, aspirated, medial, plosive	written as ph	in the verb stem - ph uma
[tʰ] - alveolar, voiceless, medial, plosive	written as t	in the word izin t i
[tʰ] - alveolar, aspirated, medial, plosive	written as th	in the word is th o
[d] - alveolar, voiced, medial, plosive	written as d	in the word id da
[kʰ] - velar, voiceless, medial, plosive	written as k	in the word ik ka ti
[kʰ] - velar, aspirated, medial, plosive	written as kh	in the word uk kh amba
[g] - velar, voiced, medial, plosive	written as g	in the word ig ga la
[m] - bilabial, voiced, nasal	written as m	in the word um ma
[mʰ] - bilabial, breathy voiced, nasal	written as m	in the word mi na, thatha!
[n] - alveolar, voiced, nasal	written as n	in the word n na thi
[nʰ] - alveolar, breathy voiced, nasal	written as nh	in the verb stem - nh inhiza
[ɲ] - palatal, voiced, nasal	written as ny or nj	in the words in ny ama and in nj a
[ŋ] - velar, voiced, nasal	written as ng	in the word n ng oba
[v] - labio-dental, voiced, fricative	written as v	in the word iv va
[f] - labio-dental voiceless, medial fricative	written as m	in the word if fu
[z] - alveolar voiced, fricative	written as z	in the word iz zo lo
[s] - alveolar, voiceless, fricative	written as s	in the verb stem - s onga
[ʃ] - post-alveolar, voiceless, fricative	written as sh	in the word ish sh umi
[x] - velar, voiceless, fricative	written as h	in the wordinja iyab h ona
[h] - glottal, voiceless, fricative	written as h	in the words ih h olo and sih h ambe
[ɦ] - glottal, voiced, fricative	written as hh	in the words ih h ashi and ih h olo
[ɬ] - alveolar, voiced, lateral, fricative	written as dl	in the word id l ozi
[ɬ̥] - alveolar, voiceless, lateral, fricative	written as hl	in the word ih l ahla
[w] - labio-velar, voiced, medial, approximant	written as w	in the word w we na
[j] - post-alveolar, voiced, medial, approximant	written as y	in the word y ye na
[l] - alveolar, voiced, lateral approximant	written as l	in the word il l anga
[r] - alveolar, breathy voiced, trill	written as r	in the words ir ra yisi and ir ra la

[tʃ] - alveolar, voiceless, medial affricate	written as ts and (n)+s	in the forms -tsatsaza and insada
[dʒ] - post-alveolar, voiced, medial, affricate	written as j	in the words ijazi and ijuba
[tʃ] - post-alveolar, voiceless, medial, affricate	written as tsh	in the word itshe
[kx] - palatal, voiceless, lateral, affricate	written as kl	in the verb stem -klinya

The isiZulu click consonant phonemes

Below are the click consonant phonemes of isiZulu.

[ʘ] - apico-dental click	written as c	in the word ucingo
[ʘ ^h] - apico-dental aspirated click	written as ch	in the verb stem -chitha
[ʘ/g] - apico-dental voiced click	written as gc	in the verb stem -gcina
[ǀ] - lamino-molar lateral click	written as x	in the word ucingo
[ǀ ^h] - lamino-molar aspirated lateral click	written as xh	in the verb stem -xhuma
[ǀ/g] - lamino-molar voiced lateral click	written as gx	in the verb stem -gxoba
[ǃ] - lamino-alveo-palatal click	written as q	in the word iqanda
[ǃ ^h] - lamino-alveo-palatal aspirated click	written as qh	in the verb stem -qhuma
[ǃ/g] - lamino-alveo-palatal voiced click	written as gq	in the verb stem -gqagqaza

The nasalised clicks shown below do not constitute separate phonemes. They are merely the clicks above preceded by the **homorganic nasal**. The examples below are thus in each case two phonemes that combine to form a consonant cluster.

[ŋʘ] - apico-dental nasalised click	written as nc	in the verb stem -ncela
[ŋʘ/g] - apico-dental nasalised voiced click	written as ngc	in the word ingcoshana
[ŋǀ] - lamino-molar nasalised lateral click	written as nx	in the word nxá
[ŋǀ/g] - lamino-molar nasalised voiced lateral click	written as ngx	in the word ingxoxo
[ŋǃ] - lamino-alveo-palatal nasalised click	written as nq	in the word inqaba
[ŋǃ/g] - lamino-alveo-palatal nasalised voiced click	written as ngq	in the word ngqi

Appendix B:

IsiZulu syllables

The African languages have an open syllabic structure. This means that a syllable generally ends in a vowel, as is shown in the example words in this appendix.

However, isiZulu syllables may differ in length and complexity. A syllable may comprise a vowel only, the syllabic /m/, a consonant plus a vowel, two consonants plus a vowel, three consonants plus a vowel, four consonants plus a vowel or five consonants plus a vowel as is evident in the examples below.

The phonological structure /VV/ is inadmissible in isiZulu which means that two or more vowels do not occur in immediate succession in a word in isiZulu.

(Some ideophones are exceptions to this rule and other phonological rules of isiZulu. Von Staden (1971) lists examples of ideophones with the phonological structure /VV/ such as "thwii" ('to be straight'), "ncii" ('to smelt') and "bhoo" ('the humming of bees'). Note that (onomatopoeic) ideophones also utilise unusual consonant sounds and consonant combinations. Consider for instance the ideophones "ndrr" ('for a bird flying away'), "grr" ('for antelopes running away') (with the r sound written phonetically as [r:]) and "mprr" ('for the sound a horse makes – neighing') (with the r sound written phonetically as [ʁ]). These ideophones do not only contain a reduplicated r-sound, the combination of this sound with the preceding consonant(s) is also out of the ordinary. Because of the relatively low occurrence of these unusual sounds, they are not included in this discussion.)

nasal: a nasal is a consonant produced with a lowered velum, allowing air to escape freely through the nose.

homorganic: consonant sounds that are articulated in the same position or place of articulation in the mouth

Single character syllables /V/

Any one of the five vowels of isiZulu may form a syllable on its own as is evident in the examples below.

a: /a/ma/nzi/	e: /e/kha/ya/	i: /i/je/le/	o: /o/go/go/	u: /u/thi/
a: /a/ba/da/la/	e: /e/hlu/la/	i: /i/hlo/	o: /o/mnca/ne/	u: /u/bu/so/
a: /a/fi/ka/	e: /e/nhle/	i: /i/bo/na/	o: /o/se/be/nza/yo/	u: /u/tha/nda/

The bilabial nasal /m/ may also form a syllable on its own if the /m/ is the variant true prefix of class 1 or class 3 (-m- instead of -mu-) or the variant form of the object morpheme of classes 1 or 1a (-m- instead of -mu-). Consider the examples below.

Class 1 noun prefix: umzali (< /u/m/za/li/) as opposed to umuntu (< /u/mu/ntu/).

Class 3 noun prefix: umfula (< /u/m/fu/la/) as opposed to umuthi (< /u/mu/thi/).

Class 1 object morpheme: Siyambona (< /si/ya/m/bo/na/) lo mntwana ('We see him/her, this child').

Class 1a object morpheme: Ngiyamhlonipha (< /ngi/ya/m/hlo/ni/pha/) umama ('I respect her, mother').

Syllables comprising one consonant and one vowel /CV/

ba:	/a/ ba /ntu/, / ba /ya/dla/la/ (abafana), /u/ ba /ba/
si:	/i/ si /tsha/, / si /ya/fu/nda/, /a/ma/ si /
wo:	/u/nya/ wo /, / wo /za/, / wo /na/ (umuthi)
du:	/i/si/ du /mbu/
pi:	/i/ pi /ki/
ke:	/ke/ pha /
ku:	/u/ ku /su/la/
do:	/i/ do /lo/bha/
la:	/ngi/ la /mbi/le/
nu:	/i/ nu / nu /

Syllable comprising 2 consonants and a vowel /CCV/

hla:	/ngi/ hla /la/
khu:	/ba/ya/ khu /la/
chi:	/si/ chi /tha/ amanzi
gqo:	/u/ gqo /zi/
mbo:	/i/ mbo /ko/do/
jwa:	/u/ jwa /ye/le/
dla:	/zi/ya/ dla /
bhe:	/ni/ bhe /ka/ isithombe
cwe:	/i/ya/ cwe /be/ze/la/
lwe:	/u/ lwe /mbe/

3. Syllables comprising 3 consonants and a vowel /CCCV/

dlwe:	/ba/ dlwe /ngu/la/
njwa:	/i/ njwa /ye/lo/
nhlo:	/i/ nhlo /ko/
ndla:	/i/ ndla /la/
gqwe:	/u/m/ gqwe /bu/
chwe:	/u/ chwe /phe/sha/
ncwi:	/u/ ncwi /nza/
ndwa:	/i/ ndwa /ngu/
ngco:	/i/ ngco /fa/
ngqa:	/u/ku/ ngqa /ba/

Syllables comprising 4 consonants and a vowel
/CCCCV/

nhlwa:	/i/ nhlwa /thi/
nhlwe:	/i/ nhlwe /nga/
ndlwa:	/i/ ndlwa /na/
ngcwa:	/si/ ngcwa /ba/
	/u/m/ ngcwa /bo/
ngcwe:	/o/ ngcwe /le/
ngqwa:	/i/ ngqwa /ba/
ngqwe:	/i/ ngqwe /le/
ngxwe:	/i/ ngxwe /le/

Syllables comprising 5 consonants and a vowel
/CCCCCV/

ntshwa:	i/ ntshwa /mbi/sa/ne/
---------	------------------------------

Appendix C:

Sesotho phonemes

Sesotho does not utilize all the letters of the alphabet. Sesotho does not have words (or at least original words) containing the sounds represented by the letters c, v, and x.

The letter z appears in a very limited number of words, such as "Sezulu" ('Zulu language'). The letter v, on the other hand, appears in a few loan words such as "vouta" ('vote').

The Sesotho phonemes

Single letter sounds: vowels	a, e, i, o, u, ê, ô
Single letter sounds: consonants	b, d, f, h, j, k, l, m, n, p, q, r, s, t, w, y, z
Digraphs	hl, kg, kh, ng, ny, ph, sh, tj, tl, th, ts, qh
Trigraphs	tjh, tlh, tsh

Sesotho consonant blends

hw, jw, kw, lw, nw, qw, rw, sw, twnk, nt, nq, mp, mm, nn, ll
ngw, shw, qhw, nkg, mph, hlw, nth, ntj, ntl, tsw, nts, thw, ptj, pjh, nkq, ntsw, ntlw, tlw, tsw
tshw, ntsh, ntlhw, ntshw, ntjh

Self test answers

Unit 1: What is decoding in reading?

1. What is decoding?

The transforming of written text into spoken language.

2. Do children have a natural ability to decode?

No. Decoding, like reading and writing, normally has to be taught.

3. What is a phoneme?

An individual sound in a spoken language.

4. What is a grapheme?

A written letter representing a sound in the language

5. What is morphology in a language?

The way in which words and the meaningful parts of words are structured

6. What is phonological awareness?

Being aware that spoken language is made up of individual sounds.

7. What is phonics?

The system of sound-letter relationships in a written language

8. What are the commonly called the "big five" components of the teaching of reading.

phonological awareness; phonics; (oral) reading fluency; vocabulary building; comprehension.

9. Write a brief outline of what you would say about the purpose of reading to learners at the start of teaching them to read.

Something about there being two main purposes (both in and out of school):

- for the experience (often pleasurable) of reading literature, what other people have written
- to acquire and use information from texts.

10. Before children can learn how to decode they need to have some letter-sound knowledge.

Unit 2: What is phonological awareness and why is it important for reading?

1. Does phonological awareness apply to aural or written units of speech?

aural

2. What does phonemic awareness enable one to do?

Phonemic awareness enables one to hear and identify the separate sounds, called phonemes) in a stream of speech.

3. Prosody awareness is of the patterns of stress and intonation in a language

4. Define the following:

stress – the degree of emphasis given a sound or syllable in speech or to certain words in a phrase or sentence

intonation – the variation in the pitch level of the voice that creates a the pattern or melody in speech that helps indicate the attitudes and emotions of the speaker

alliteration – the repetition of the same consonant sound at the beginning of several different words used in a sentence or paragraph

rhyme –in poetry when there are corresponding sounds at the ends of pairs of lines

5. Which of these words – shop; café – contains a diacritic? café

6. What is word tone? A difference in the sound of the voice (whether its pitch goes higher or lower) which changes the meaning of the word spoken.

7. What is phonics? Phonics is the system of sound-letter relationships used in reading and writing that matches letters or letter combinations with word sounds.

8. Distinguish between Phonological awareness and Phonics.

Phonological awareness focuses on aural language and enables the identification and manipulation of syllables and phonemes in words.

Phonics focuses on written language and enables the converting of written text into meaningful spoken language.

Unit 3: Phonological awareness – syllables

- 1. Identify the all the vowels and consonants in these words: amabandla; itshe; funda; motso; polelo.**

Vowels: a, i, e, u, o Consonants: m, b, n, d, l, s, t, h

- 2. Describe the features of an open syllable (V).**

Ends with a single vowel with a long sound. There is no more than one consonant between it and the next vowel.

- 3. How many sounds does a digraph represent?**

One. The two successive letters represent one sound.

- 4. Distinguish between these two three symbols: C, CC, CCC**

C stands for one consonant with one sound

CC stands for a blend of two consonants

CCC stands for a blend of three consonants.

- 5. Distinguish between rime and onset.**

Rime is the last sound in a syllable and onset is the first sound in a syllable.

- 6. Define epenthesis.**

The adding of a new phoneme to the beginning or end of a word to make a different word.

- 7. List the six main phonological operations involving syllables and phonemes.**

- identifying and matching (identifying or recognising similar and different forms)
- blending (putting together or combining)
- segmenting (breaking up or distinguishing)
- deleting (taking away),
- substituting (replacing), and
- epenthesis (adding).

- 8. How many syllables in these words "uThandi" and "especially".**

3 (u-Tha-ndi) and 4 (es-pe-cial-ly)

- 9. Do the words "umakoti" and "izinti" end with the same syllable?**

No ti and nti are different syllables.

Unit 4: Phonological awareness – phonemes

1. To have phonemic awareness means to be able to identify and distinguish between the individual sounds (the phonemes) in words

2. What is phoneme isolation?

Identifying where a sound appears in a word or what sound appears in a given position in a word.

3. Which of these statements is NOT correct?

Analysis of phonemes means ...

(a) The isolation of sounds in words

(b) Listening and identifying the beginning, middle or final sounds in a word

(c) ~~The part of reading where the eyes read the printed symbol on the page~~

(d) Knowing which letter of the alphabet matches with which sound

4. Which of these ways would you use to check if a child has begun to show phonemic awareness?

(a) Count the number of words in a read out sentence.

(b) Say the first sound heard in the word 'mat'.

(c) Point to the correct letters on an alphabet chart when the teacher names them.

(d) Say whether the two words 'cat' and 'mat' rhyme.

(b) and (d)

Unit 5: The alphabet, orthography, and language structures

1. Which of these sentences are written in a disjunctive orthography and a which a conjunctive one?

He wrote a letter to apply for the job. disjunctive

Wabhala incwadi yesicelo somsebenzi. conjunctive

O ile a ngola lengolo la kōpo ea mosebetsi. disjunctive

2. What is the difference between an “opaque” and a “transparent” orthography?

In an “opaque” orthography a single speech sound (phoneme) may be represented by different graphemes or different speech sounds are represented by the same grapheme. In a “transparent” orthography there is a one-to-one relationship between the speech sounds and the graphemes that represent them.

3. When in an Nguni language two vowels appear next to each other in a word you may find: vowel elision, semi-vowel insertion, replacement by a semi-vowel, or vowel coalescence.

4. List six factors that can influence the level of difficulty in learning to read in a particular language:

- the transparency or opaqueness of the orthography
- the length of words
- the complexity of the syllable structure
- the complexity of the morphological and syntactic structure
- the level of development and how strongly conventionalised the vocabulary is
- the convention of not marking suprasegmental qualities in the orthography.

5. Are these Sesotho or isiZulu consonant letter sequences– kh, kg, ntshw, nhlw, ngc – single phonemes or a sequence of consonant phonemes?

Single phonemes.

6. Explain how you would teach about tonal and length differences in vowel sounds that are not shown in the actual orthography of the letters (graphemes).

Perhaps explain that as the differences in tone (high or low tone) and length are not shown in the letters (graphemes) and that which way to pronounce the letters must be determined by the context (both before and after) of the word in the sentence and passage.

Unit 6: Alphabetic knowledge

1. What are the two kinds of alphabetic knowledge that have to be acquired to be able to learn to read fluently?

Letter-name knowledge and letter-sound knowledge

2. How many letter-sounds are there in English? 44

3. Do you think Sesotho and isiZulu have more or less letter sounds than English. More.

4. No English letter-names correspond with the letter-sound. ~~True~~/False.

It is best to teach the letter names before teaching decoding. True/False

In African languages the letter-names correlate nearly perfectly with the letter-sound. True/False

5. Letter-sound knowledge is a combination of phonology (sounds in speech; phonemes) and orthography (spelling patters; graphemes).

6. What are the four permutations of letter-sound correspondence in a writing system? Which one is not found in African languages?

- one letter may represent one sound,
- one letter may represent different sounds,
- a combination of letters may represent a single sound, or
- different letters may represent the same sound (common in English but not in African languages).

Unit 7: The stages of reading

1. What are the names of Frith's three stages of reading?

1. the pictorial stage
2. the phonological reading pathway
3. the orthographic pathway

2. In the first stage the child "reads" a name as a "picture" and does not yet understand the writing system.

3. In the second stage the child can decode words by matching the graphemes in the words to the speech sounds they represent. In this stage the child has to understand the alphabetic principle.

4. Is phonics taught during the second stage? Yes.

5. In the third stage the child has developed a substantial visual lexicon or words they recognise.

6. Frith and many reading scientists argue for the necessity of the components of phonological awareness and phonics.

7. What is the equation presented in The Simple View of Reading?

Decoding (D) x (Oral) Language Comprehension (LC) = Reading Comprehension (RC)

8. Using this equation what was a child's reading comprehension score if they got 65% for one component and 100% for the other?

$65\% \times 100\% = 65\%$

9. What are components of language comprehension?

oral language proficiency

age appropriate vocabulary

understanding of the structure of the language (morphology, syntax, semantics)

general background knowledge

age appropriate literacy knowledge (writing conventions, genres and language registers).

10. What does asking a child to read a pseudo (made-up) word they have never seen before test?

That they can decode a word phonetically.

Unit 8: Phonics – syllables and phonemes

1. Define phonics.

A method of teaching beginning readers to understand the relationship between spoken and written language and the relationship between the letters of the alphabet in words and the sounds they represent.

2. Should a teacher teach all the letter-sound correspondences in one go or in an appropriate order over time?

In a planned sequence.

3. Is it best to teach phonics at the level of phonemes or syllables?

There are strong arguments to teach phonics in the African language initially via syllables, although explicit and systematic teaching of the phonemes of the language is also essential.

4. What would be a good sequence to teach?

Start with the vowels and a few high frequency consonants.

5. Should one only teach digraphs and trigraphs after all the phonemes represented by single-letters are done?

No, as some digraphs and trigraphs occur frequently in African languages.

6. Outline a typical sequence in a phonics lesson.

The letter is introduced (its shape, (its name) and sound). Then the letter is combined with a vowel or consonant to form a syllable, and then short words are made containing the sound (of the syllable or phoneme).

7. What phonological operations are commonly taught in phonics exercises.

identification, matching, blending, segmentation, deletion, and substitution

8. What is syllable segmentation?

Breaking down a word into its constituent syllables

9. Why is phonics teaching related to phonemes challenging?

The alphabetic script has fewer letters than there are sounds in the language and some letters or combinations of letters may represent several sounds.

Unit 9: Morphological awareness and reading

1. Define morphology.

The study of how words are made up of smaller units that carry meaning, called morphemes.

2. What are the three types of morphemes?

Roots (lexical), Stems, Grammatical

3. The meaning of a morpheme is context dependent. True/False

4. What does 'productive morphology' mean?

The language has a large number of grammatical morphemes that can be attached to words to modify their meaning.

5. What kind of morpheme is the 'ba' in the isiZulu word "bayadlala"?

A grammatical morpheme (a grammatical subject morpheme).

6. What is agglutination?

Agglutination is the process of adding affixes to a word to mark grammatical categories and syntactic functions.

Unit 10: Developing reading fluency

1. What is it for a child to read fluently?

To be able to read grade appropriate text aloud in a fluent manner, that is, accurately, at an appropriate speed, without effort using the same sort of voice and expression that applies to spoken language.

2. What are typical features of prosody?

Pitch, tone, length, use of pauses, phrasing according to the syntax, stress (not in African languages but in English)

3. What is the problem with reading books with pictures and a predictable text.

The learner reader may memorise the sentence associated with the picture but cannot actually read the text.

4. How can you measure word-level fluency?

Ask the learner to read a list of words and measure how fast and accurately they do so.

5. Oral reading fluency can be influenced by a wide range of factors. List at least six.

vocabulary, oral language skills, understanding of grammar, listening comprehension, the quality of the reading instruction, the linguistic and socioeconomic situation at home, the degree of transparency of the orthography, word length, morphological complexity of the language, the learner's background knowledge, the learner's level of cognitive development

6. What does EGRA stand for?

Early Grade Reading Assessment

7. What should be assessed in Grade R and early Grade 1?

Letter-name and Letter-sound knowledge

8. What does WCPM stand for?

Words Correct Per Minute

9. Grade 1 ORF wcpm benchmarks for English and African languages range from which: 20 to 60/ 50 to 90/60 to 100/ wcpm

20 to 60 (English 60, Disjunctive African languages 40, Conjunctive African languages 20)

Study guide 3: Decoding in reading

© 2022 Sesotho and IsiZulu Reading Project



Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License (CC BY-NC-SA 4.0)

This study guide is about decoding – about developing the ability to transform written text into spoken words in order to gain access to the meaning of a text. Unless a child is able to convert the written text into spoken language, she or he cannot decode the message behind the words. Children are not born with an innate ability to read and write, they have to be taught to do that.

To decode a text means applying a knowledge of letter-sound relationships, including knowledge of letter patterns, to correctly sound-out and pronounce written words. In other words it is deciphering the alphabetic code into language. To encode is the reverse process of converting spoken words into written text.

This guide provides an introduction to the key elements of decoding in reading, namely phonological awareness, alphabetic knowledge, phonics, morphological awareness and oral reading fluency.

Note that this study guide has focused on decoding in Sesotho and isiZulu, though it will be useful for all teachers of literacy in South Africa's official languages.

There are short self-tests for each unit in the study guide.

This publication has been produced with the assistance of the Nedbank Foundation and the Primary Teacher Education Project of the Department of Higher Education and Training. The development of the publication was led by Sesotho and IsiZulu reading Project at the Centre for African Language Teaching at the University of Johannesburg and managed by JET Education Services. This publication can in no way be taken to reflect the views of the these bodies.



higher education
& training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA