Sesotho and isiZulu Reading Project Study Materials

Module 3:

Decoding: Phonological awareness, alphabetic knowledge, phonics, oral reading fluency, morphological awareness and reading stages

UNIVERSITY OF JOHANNESBURG
JET EDUCATION SERVICES
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Module 3: Decoding: alphabetic knowledge, phonological awareness, phonics, morphological awareness and oral reading fluency

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Contents

The purpose of this module

This module is about decoding – developing the ability to convert written text into the words of spoken language in order to gain access to the meaning of a text. Unless children are able to convert written text into spoken words, they cannot decode the message behind the words. Learning to do this is not easy. When children come to school, they already have some intuitive knowledge of their language that they have acquired naturally and they have speaking and listening skills, but they are not born with an innate ability to read and write; they need to be taught to do that.

To decode a text means applying 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, converting spoken words into written text.

This purpose of this module is to introduce student teachers to the key elements of decoding in reading, namely phonological awareness, alphabetic knowledge, phonics, oral reading fluency and morphological awareness. The module ends with a brief discussion of the stages that children typically go through to become readers and identifies the various skills that develop and interact during these stages.

What knowledge of linguistics does a literacy teacher need?

Knowing how to teach reading requires some elementary understanding of linguistics, that is, the scientific study of language (Fillmore & 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 Module 1 Description of linguistic concepts underlying teaching reading.

A proper understanding of this module is dependent on the prerequisite basic knowledge of language and linguistics contained in Modules 1 Description of linguistic concepts underlying teaching reading and 2 Oral language proficiency development, vocabulary building and motivation for reading of this series. If you do not have this prerequisite knowledge, it is strongly recommended that you consult those two modules first.

Note on the terminology of teaching reading

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

reading fluency, morphology and morphemes, etc.

Module 1 provides much needed background knowledge of the technical language used in the study of reading. These terms are useful for the teacher's precise understanding of the foundational elements of the teaching of reading and are used throughout the modules. The reading teacher needs a good basic understanding of linguistics, the sound system (phonology) of the language and its orthography (writing system). Knowledge of morphemes (the smallest meaningful parts of words) plays a crucial role in the understanding of the meaning of words, sentences and vocabulary building, especially in African languages, since these languages have a very productive morphology.

Outcomes

After studying this module student teachers should be able to:

- describe the components involved in the process of decoding written text;
- describe key concepts such as phonological awareness, alphabetical knowledge, phonics, word identification, oral reading fluency and morphological awareness and explain their relevance for learning to read;
- select, develop and apply suitable methods and techniques to teach the components of decoding;
- integrate the components of reading to facilitate the process of learning to decode;
- understand the different stages of reading that children typically go through in their journey to become skilled readers;
- assess their learners' decoding skills using different measures, identify which components of decoding are problematic and how they can be remediated.

What literacy teacher standards are covered?

The list of literacy teacher standards that are applicable to reading teachers in South Africa can be downloaded from:

https://www.jet.org.za/clearinghouse/projects/primted/standards/literacy-teacher-standards/literacy-teacher-standards-2020-1.pdf

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. There are 21 standards in all. This module covers six of the standards (or portions of them). (The numbering of these standards below is not sequential as only those standards applicable to this module have been selected from the list.)

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 emphasises 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, categorisation, addition, deletion, substitution, and segmentation are 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.

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 or 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, and 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 focused 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.

Unit 1: What is decoding in reading?

Introduction

In this module the focus is on decoding, which is the ability to convert written text into spoken words in order to gain access to the meaning of a text. Developing decoding skills is important in the early stages of reading. Unless children are able to convert the written text into spoken language, they cannot gain access to the message behind the words.

Learning to decode texts

As with most competencies, several skills need to be developed in the process of learning to decode text.

Developing phonemic awareness in order to identify individual sounds in words

First, children need to be able to distinguish the individual sounds (**phonemes**) in spoken words. That is because the alphabet we use represents individual sounds in spoken language by means of letters (**graphemes**), not syllables or whole words. Consider the example below.

While the logo on the left may represent the whole word *indoda*, the representation of the word in alphabetic text uses six alphabetic symbols, 'i n d o d a', each letter representing an individual sound in the word.

A child needs to listen to the spoken word and be able to identify the sounds constituting that word. The child develops the awareness that spoken words are made up of individual sounds – this competence is called **phonemic awareness**.

Learning about the alphabetic principle

The child needs to understand that the letters of the alphabet are visual symbols representing speech sounds. This is referred to as the alphabetic principle. This requires two basic knowledge sets, namely knowing the names of the letters **(letter-name knowledge),** and the sounds associated with those letters **(letter-sound knowledge)**.

When phonemic awareness, the alphabetic principle and an understanding of the relationship between letter and sound in the particular language are in place, then actual decoding can occur.

Phonics and the beginning of decoding

Decoding cannot develop without knowledge of letter-sound (or grapheme-phoneme) mapping.

The process of teaching the system of sound-letter relationships used in reading and writing is referred to as 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.

The synthetic phonics approach entails teaching learners the letter-sound relationships explicitly and systematically. Learners need to be taught the letter-sounds one by one and in a particular order, starting with common letters that occur frequently in the language. When teaching the letter-sounds the teacher also needs to show the children how to blend the phoneme-grapheme sets to form words. Conversely, they also need to segment words (containing the learned grapheme-phoneme units) and map sounds onto those graphemes. In this way children thus learn to decode simple words on the basis of their knowledge of the distinctive sound units in words (phonemes) and their representation by the letters of the alphabet (graphemes). This is referred to as phonological processing in reading. Mastery of letter sounds is very important. Unless learners know their letter sounds very well, they will struggle to read words. This is why the letter-sound benchmark is important: teachers must ensure that by the end of Grade 1 learners achieve 40 correct letters per minute on a letter-sound assessment.

Initially children will sound out the words slowly and laboriously. There is a large range of exercises that can be done to help learners master this process.

More advanced decoding and fluent reading

As phonics knowledge increases and consolidates, learners start recognising common letter patterns in the orthography and this helps them recognise words. They become faster and more accurate in decoding and their phonological processing speeds up, especially if they are given many practice opportunities. There is a large range of exercises that can be done to help learners master this process. By Grade 3 learners should be decoding well enough (i.e. their oral reading is accurate and fluent and they understand what they read) that they can shift to silent reading. By the time learners move to Grade 4 in the Intermediate Phase, they should be able to read silently and with understanding.

Reading fluency is vital for proper comprehension of the meaning of the text. Comprehension is very difficult for the beginner reader if his/her working memory is occupied with sounding out of letters and blending them to form words. If working memory is tied up in decoding in this slow way it is not available for understanding the text. Lots of practice in reading text that contains the letter-sounds being taught and words containing these letter-sounds (referred to as decodable text) helps to strengthen decoding skills and free up working memory.

With practice and experience, readers can decode more complicated sequences of graphemes and longer words and longer sentences and in the process working memory becomes available so the focus shifts more and more to understanding what is read. Eventually, reading becomes more accurate and faster, more fluent and more automatised, as if whole words and phrases are

instantly being read. This is however not the case. With practice and repeated exposure to words, the eye learns to process the letters so fast that slow letter-by-letter processing changes to fast parallel processing, a form of multi-tasking where shapes and sequences of letters are decoded fast enough for quick word recognition. Although it seems as if whole words are being read at a time, new technology (such as eye tracking and brain research) shows that phonological processing in decoding in fact still happens but at a very fast pace. This can be measured in terms of milliseconds.

Writing

Writing is the reverse process of reading. Writing is the encoding of words into text – transforming phonemes into graphemes. In practice, learning to encode (to write) should take place simultaneously with learning to decode (or immediately after) as learning handwriting (how to write the letters of the alphabet) and writing words and short sentences help to reinforce and consolidate phonics and decoding.

The state of reading in South African schools

Since 2006 South Africa has participated in the Progress in International Reading Literacy Study (PIRLS) tests of reading comprehension among a representative sample of Grade 4 and 5 learners. Grade 4 learners are assessed in all 11 official languages. The findings in PIRLS (2006, and 2021) and in prePIRLS (2011) and PIRLS Literacy (2016), an easier version of PIRLS, show that most Grade 4 South African learners cannot read for meaning at a basic level. This basic level of reading includes being able to answer literal questions or make straightforward inferences when reading, referred to as the Low International Benchmark. In fact, South African learners generally perform the worst of the countries tested, scoring well below the Low International Benchmark (Howie et al. 2017). More recently, in the 2021 PIRLS, it was found that 81% of South African Grade 4 learners could not read for meaning in any language (Spaull 2023). In other words, 81% of Grade 4 learners could not even reach the Low International Benchmark in reading. This raises questions about what is happening during Foundation Phase, the period in early schooling when children are formally taught to read and write.

It is a major concern that after three to four years of schooling 81% 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 depends very much on successful early literacy, the most important components of which are learning to decode and write. There are several reasons for the poor reading ability of our learners. Some learners may not become good readers because they have learning problems, while others fail because of a lack of adequate resources. However, 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 reading poorly is that the teachers are not adequately trained in early reading instruction (Pretorius & Mokhwesana 2009; Taylor 2014).

It is essential for learners to master foundational decoding and writing skills by the end of Grade 3. This is because their ability to become successful readers depends on decoding ability, and the ability to read and write well in school will not only determine the success of all future learning and academic progress but will also have a profound influence on their employability and eventually their quality of life.

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 (usually literature or fiction – also referred to as narrative texts).
- to acquire and use information from texts (in school, often referred to as information or academic texts or content subject textbooks).

It is these two purposes that are measured by the PIRLS (Mullis, Martin, Kennedy, Trong & Sainsbury 2009:13).

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

- focus on and retrieve explicitly stated information in the text;
- make straightforward inferences from information in the text;
- interpret and integrate ideas and information in the text;
- examine and evaluate content, language, and textual elements in the given text.

Children learn to read early in primary school. In South Africa, this happens in Foundation Phase, specifically in Grade 1-3 (although Grade R is also used to develop prereading and emergent literacy skills). Throughout Foundation Phase, a class usually has a single teacher who teaches numeracy, language and literacy and life skills. Specific time slots are set aside each day to teach reading and writing (e.g. Phonics, Shared Reading, Group Guided Reading, Paired Reading, Handwriting/Writing lessons), and storybooks are also read to the class (e.g. in Read Alouds). Most of the texts used to teach and practise reading are storybooks (narrative texts) that deal with everyday topics that are familiar to children. However, information texts can also be used (e.g. a text about farm animals or a visit to the museum), although this often depends on the written resources available in the language in which reading is being taught. By the middle of Grade 2 most of the phonics work on letter-sounds and decoding should be covered and the focus shifts to developing fluency, identifying story elements (main and secondary ideas, contrast and comparison, summarising, etc.) and discussions of stories and texts. By the end of Grade 3 all learners should be able to read independently, silently and with comprehension.

When learners start Intermediate Phase in Grade 4, the pedagogic focus shifts to 'reading to learn', i.e. using reading as a learning tool. Learners now have different teachers who teach

different content subjects, they are issued with textbooks for their content subjects, and it is assumed that they can read well enough to be able to learn new information and gain deeper knowledge from their textbooks. There is no lesson assigned to teaching reading (e.g. Phonics or Shared Reading as in Foundation Phase). Language lessons are used for advanced literacy such as discussing texts to teach critical literacy.

The phrases 'learning to read' and 'reading to learn' should not be interpreted in rigid, absolute ways. Although the focus throughout Foundation Phase is on 'learning to read', this does not mean that during this time children do not learn things from texts. Of course they do! They can learn new things when teachers read stories to them and mediate the meaning of the texts to them. Once children can decode well enough to understand what they read, they can learn new things about the world and people through reading stories on their own. This can start happening with many learners in Grade 1 already. The 'read to learn' phase refers primarily to where the main pedagogic focus lies – Foundation Phase teachers are expected to teach reading (and basic numeracy), but this does not exclude the possibility of learners 'reading to learn' on their own or when teachers mediate the text to them. Similarly, there may be many learners who enter Intermediate Phase without being able to read properly and who will struggle to read and understand their textbooks on their own. The content subject teachers may need to read the textbooks aloud and mediate meaning to the class, but the weak readers will be unable to use reading as a learning tool independently. The language teachers may feel obliged to 'go back to basics' and teach these learners to read, even though the Intermediate Phase curriculum does not specify this. The assumption in Intermediate Phase is that reading has already been taught, so pedagogy shifts to different content subjects, where reading is used as an independent tool to broaden and deepen further learning.

The key components of reading

In order to ensure that learning to read in Foundation Phase is done effectively, reading teachers need to know about the key components in 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. This resulted in 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 and trigraphs
2. the ability to sound out letters
3. the ability to hear and blend letter sounds
4. reading of phonically regular words and
5. reading irregular words.

Even though the reading of irregular words applies more to English than languages with a transparent orthography (such as African languages), these skills are important in all languages that use an alphabetic writing system. The Rose Review strongly recommended the use of synthetic phonics (Parker 2019) and viewed it as the most efficient approach to teaching reading to children, coaching them to become skilled readers, that is children who can read for meaning.

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 module covers most of these essential components noted above (except for vocabulary building and reading comprehension – Module 2 deals with vocabulary and Module 4 with reading comprehension). There are many other aspects involved in reading comprehension as will be discussed in Module 4 (see also for example 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. 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, Rastle & Nation 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 automatises the reading process, which in turn frees up working memory for comprehension rather than focusing on word decoding. The strong relationship between accuracy and the pace of word reading and reading comprehension has been confirmed in many research studies (Tunmer & Hoover 2019: 83-84; Schwartz & Sparks 2019:3; Spaull, Pretorius & Mohohlwane 2020: 3).

An overview

Before getting to the details of decoding, we first need to revisit the four language skills and how they are interrelated. (Refer to Module 1 for a detailed explanation.)

Language is a communication system. We can use the communicative power of language in four main ways – listening, speaking, reading and writing. These are the four basic language and literacy skills. Of these skills, listening and speaking are the oral language skills, while reading and writing are the written language skills. We can categorise listening and reading as receptive skills – we receive or perceive information – and speaking and writing as productive skills – we produce speech and writing, as shown in Table 1.

Table 1: Receptive and productive skills in oral and written modes

RECEPTIVE	PRODUCTIVE	
Listening	Speaking	ORAL
Reading	Writing	WRITTEN

When you write, you actually encode the language. Encoding is thus the process of converting oral language into written language. The reason for writing is to preserve ideas expressed in language so that we or other people can read them at any time after the writing process.

Decoding is the opposite of encoding. In order to understand the message embedded in the written language, we have to read it. Reading entails decoding the written language by transforming the written form into spoken language so that we can gain access to the message. As you read this passage right now, you are decoding the written text we wrote some time ago in order to understand what is written here.

Reading comprehension is a complex activity that is influenced by a number of factors, such as the reader's cognitive and language abilities, vocabulary knowledge, background knowledge, the reader's own motivation and attitude towards reading, socio-economic background, the availability of books, exposure to text in print or digital form and the community's attitude and practices towards reading, external motivation to read and the effectiveness of the teaching process (see also Pretorius & Murray 2019).

The focus on decoding

The ultimate aim of 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. An early and important step ins becoming a skilled reader is the development of decoding. Decoding is not reading, it is a component of reading, albeit an important foundational component of reading.

Decoding demands particular orthographic and linguistic knowledge and competencies. These

knowledge and competency sets include oral language proficiency, phonological awareness, alphabetic knowledge, phonics, word identification skills, and oral reading fluency. Figure 1 below depicts all these components.

Five of the components of decoding contained in Figure 1 are discussed in this module, namely, phonological awareness, alphabetic knowledge, word identification, phonics, and oral reading fluency. Oral language proficiency is discussed in more detail in Module 2, while some attention is also given to it in this module.

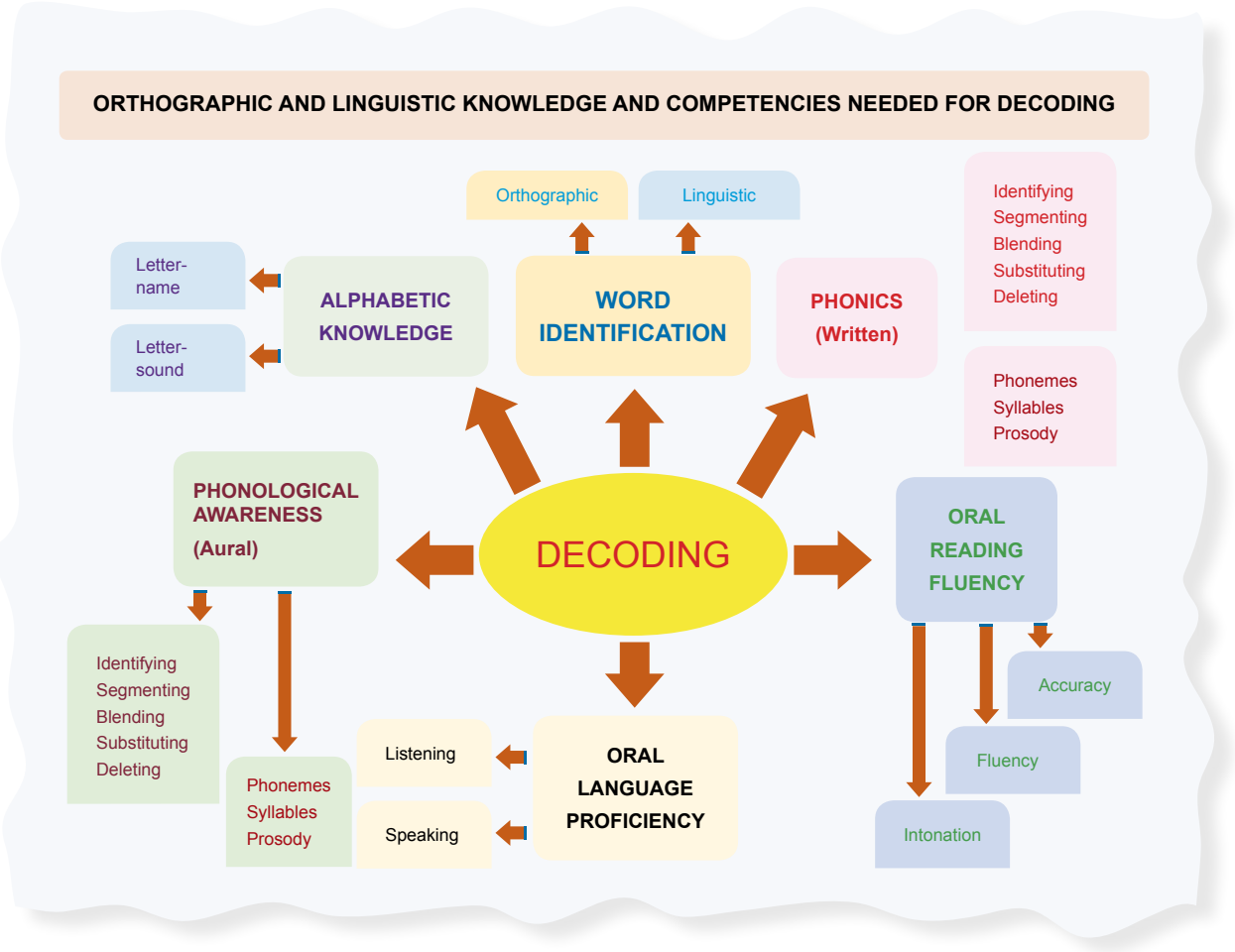


Figure 1: Components of decoding

Note that phonological awareness and phonics both focus on phonemes and syllables as distinct units of words and the prosody of the language. In both instances the emphasis is on the identification and manipulation of speech sounds (phonemes) and syllables as they occur in words. The difference is that phonological awareness focuses on the spoken (or aural) words, while phonics focuses on the relationships between phonemes and the graphemes of the written form of the target language.

Conclusion

This unit focuses on the role that decoding plays in the bigger reading picture and describes the basic skills required for decoding. The state of reading in South African schools is also discussed to provide a broader context for the need for effective reading instruction in Foundation Phase, and the developmental journey that children undertake from learning to read to reading to learn is briefly sketched. Finally, the key components of reading are described, the decoding component identified in relation to these components, and an overview of the skills that underpin decoding is provided.

Self-assessment activities

These are 'quickie' assessment activities to check how well you have understood key concepts discussed in this unit and whether you are able to perceive the pedagogical implications of such concepts in the teaching of reading.

Note: The key to these self-assessment activities is given in the Appendix at the end of this module. If you score less than 6/8 (75%) for these questions you are advised to re-read the unit again to strengthen your content and pedagogic knowledge.

1. In each of the statements below provide **the appropriate missing word (or words). (6)**

   a) If I am teaching Grade R or Grade 1 learners to identify and segment and blend the sounds (phonemes) of spoken language I would be teaching …… (1)

   b) If I am teaching learners the phoneme-grapheme relationships that exist in a language for the purposes of reading and writing, I would be teaching …… (1)

   c) The way in which isiZulu and the other Nguni languages are written in terms of their word division is called a ……. orthography, while the way in which Sesotho and the other languages in the Sotho group are written is called a …… orthography. (2)

   d) Teaching learners how to convert spoken language into written language is called …… while teaching learners how to convert written language into spoken language is called ……. (2)

2. Indicate which one of the following statements is **false**. **(1)**

   a) Word identification is part of decoding.

b) Phonological awareness is part of decoding.

c) Oral reading fluency is part of decoding.

d) Sentence structure is part of decoding.

3. Indicate which of the following statements is **the correct one**. **(1)**

a) A grapheme is a letter or a sequence of letters that represent a single speech sound.

b) The alphabetic principle entails knowledge of letter names, letter sounds and phonological rules.

c) The synthetic phonics approach is about teaching the grapheme-phoneme relationship when the learner comes across a particular sound and has to write it.

d) Reading to learn cannot happen when learning to read is happening.

Unit 2: Phonological awareness – a precursor of decoding

Introduction

A prerequisite for associating a speech sound with a particular letter or grapheme is the awareness that words comprise distinctive speech sounds. This unit describes different kinds of phonological awareness, explains why it is important for reading and provides activities for developing phonological and phonemic awareness.

What is phonological awareness?

Preliminary reading

Module 1: *Description of linguistic concepts underlying teaching reading*

Take cognisance of the following concepts as described in Module 1:

- The structure of words and sentences
- The sounds of spoken language – phones and phonemes
- Phonological awareness (syllable awareness, prosodic awareness and phonemic awareness)

Module 2: *Unit 3: Teaching phonological awareness*

Phonological awareness is a broad term that refers to the awareness of, and the ability to identify and manipulate, oral and aural units of speech. It involves the detection and manipulation of sounds at various levels of sound structure. It is a **metalinguistic** skill, requiring awareness and reflection on the structure of language and the ability to manipulate its components.

Phonological awareness is an umbrella term for different kinds of awareness of human speech sounds and can be subdivided into syllable awareness (the awareness of syllables in words), prosody awareness (the awareness of suprasegmental qualities of speech sounds such as vowel length, tone, stress, rhyme) and phonemic awareness (the awareness of separate sounds/ phonemes in words).

Children must learn to identify and manipulate both larger and smaller parts of sounds in a language. This includes learning that a sentence is composed of word groups, and that words groups comprise individual words, all of which may carry rhyming patterns or different

tone or pitch patterns. They also learn that words can in turn be divided or segmented into syllables or phonemes (sometimes syllables or phonemes can also overlap with morphemes). Developmentally, children typically acquire suprasegmental and syllable awareness before phonemic awareness. Becoming aware of larger pieces of sounds in language like syllables is easier than identifying the individual sounds in words.

Why is phonological awareness important for reading?

Alphabetic writing systems such as ours represent spoken language phonemically, i.e. at the smallest level of individual sounds. Having an awareness of sounds in language helps children grasp the alphabetic principle and that individual letters represent the different sounds that make up words in a language. Learning to read an alphabetic language thus requires children to develop analytic skills at the phonemic level. Even in syllabic languages (such as Italian, Greek and the African languages), children need to tune into individual sounds within syllables, because that is how the alphabetic writing system works. 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, phoneme-grapheme relationship and vocabulary of the particular target language.

Teaching phonological awareness

Since phonological awareness is discussed in some detail in Module 2, we will only briefly revisit the teaching of phonological awareness in this module.

To recap:

- **Syllable awareness** enables the listener to hear and identify the syllables in words.
- **Prosody awareness** is awareness of the patterns of tone, vowel length, intonation and alliteration. In English and Afrikaans, rhyme, particularly end rhyme, is also important. However, rhyme is not very effective in the African languages as an ordering device.
- **Phonemic awareness** enables a listener to hear and identify the separate phonemes in a stream of speech (e.g., in isiZulu to identify the same sound /a/ in *ubaba* and *amandla* or, in Sesotho, to identify the separate vowel sounds /a/, /e/, /o/ in the verb stems *-bala, -bela,* and *-bola*). These distinctive sounds are called phonemes.
- Phonemic awareness relates to spoken speech sounds, not to alphabet letters or graphemes. 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.

Phonological awareness teaching should start very early, ideally before school, albeit not formally. Parents, guardians, and older siblings may for instance help children to identify and correctly pronounce speech sounds they have difficulty with. In school, phonological awareness training should start in Grade R and continue in Grade 1 (and in Grade 2 if some children still struggle

with it), as indicated in the ***Curriculum and Assessment Policy Statements*** (CAPS) guidelines (Department of Basic Education 2011a, b, c).

Though some children will pick up sound awareness themselves, they must be taught to tune in to the sounds of language. They need to notice that some words **rhyme** (*mi**na**, thi**na***) or that some sounds are repeated in **alliteration** (*i**qaqa** li**qha**q**ha**zela emgwa**qe**ni*).

Rhyme and repetition are common ways of sensitising learners to the components of words. Rhyme, in particular end rhyme (the rhyme at the end of a line), 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. While rhyme is used in many languages as a poetic device to sensitise learners to the sound patterns of the language, this mechanism does not work in the African languages due to the phonological and morphological structure of these languages. In the African languages repetition, alliteration, linking and reduplication are used as ordering or poetic devices instead. Consider the use of repetition of sounds and sentence structures in the two isiZulu nursery rhymes (izilololo) below:

Liyaduma, liyaduma

Liyaduma, liyaduma.

(Abantwana bashaya izinyawo phansi belingisa ukuduma kwezulu.)

Uyezwa, uyezwa?

(Abantwana benza ngathi bayalalela.)

Amacons' emvula, amacons' emvula.

Co, co, co!

(Abantwana balingisa ukuconsa kwemvula ngezandla.)

Sengimanzi nte,

(Abantwana bayaqhaqhazela.)

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.

Prosody refers to the patterns of intonation in a language. It is the 'music' of the language, the rhythmic and tonal aspects of speech. Prosody is concerned with those suprasegmental elements of speech that are superimposed on phonemes, words, or sentences and involves **tone**, **length**, **pitch**, **intonation**, **rhythm** and **stress** (though stress does not feature in the African languages as a grammatical device).

Tone is realised on the vowels. Unlike some languages, Sesotho and isiZulu do not use **diacritics** in the **orthography** to mark the suprasegmental qualities such as tone that operate in these languages. This is a pity because 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, for example the low and high tones on the subject morphemes of second person singular and the third person singular of isiZulu ù- and ú-, and Sesotho ò- and ó-. Because tone is not indicated in the orthography it needs to be deduced from the context and this can complicate reading in these languages. For example, 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 on u- is not marked. If the subject morpheme **u-** is pronounced with low tone, thus *Ùsebenza lapha*?, the meaning is 'Do you work here?' If the subject morpheme u- is pronounced with high tone, thus *Úsebenza lapha*?, the meaning is 'Does he/she work here?'

Because of the absence of diacritics 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 context, thus posing a challenge in terms of pronunciation while decoding.

Vowel length is also a feature of African languages that is not marked in writing. In the sentences

below note how the difference in length in the pronunciation of the first /a/ vowel (in the word *bakhwela*) leads 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 verb in the first sentence below as a present tense form and the verb in the second sentence as a remote past tense form.

- Present tense (with a short /a/ in the subject morpheme):
- *Abantwana b**a**khwela intaba manje* ('The children are climbing the mountain now.')
- Remote past tense (with a long /a/ in the subject morpheme):
- *Abantwana b**a**khwela intaba ngesonto eledlule.* ('The children climbed the mountain last week.')

The non-use of tonal marking in the orthography makes reading difficult. Consider the sentence pair above. The key to determining the correct tonology of the verb *bakhwela* appears only in the second word after it in the first sentence and in the second and third words after it in the second sentence. It is the word *manje* and the word group *ngesonto eledlule* that retrospectively signals how the verb *bakhwela* should be pronounced.

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 when reading the sentence.

In African languages, **sentence tone** may be the only characteristic to distinguish between a statement and a question sentence in the spoken form. 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 (pl.) will write a test.')

Nizobhala isivivinyo? ('Will you (pl.) write a test?')

In the orthography a question mark is used to mark a question sentence (and the optional use of the question word *na* at the end of the sentence).

Note that while the penultimate (second last) vowel of each word in a sentence is pronounced with short 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 illustrated in the example, *Sisath**e**.nga isi.nkwa ma:nje.* ('We are still buying bread now').

From the brief preceding discussion, it is clear that the absence of diacritics in the orthography of Sesotho and isiZulu poses challenges for the beginner reader in these languages. A teacher 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 and in reading.

Figure 2 below provides a schematic summary of the components of phonological awareness (with reference to the African languages).

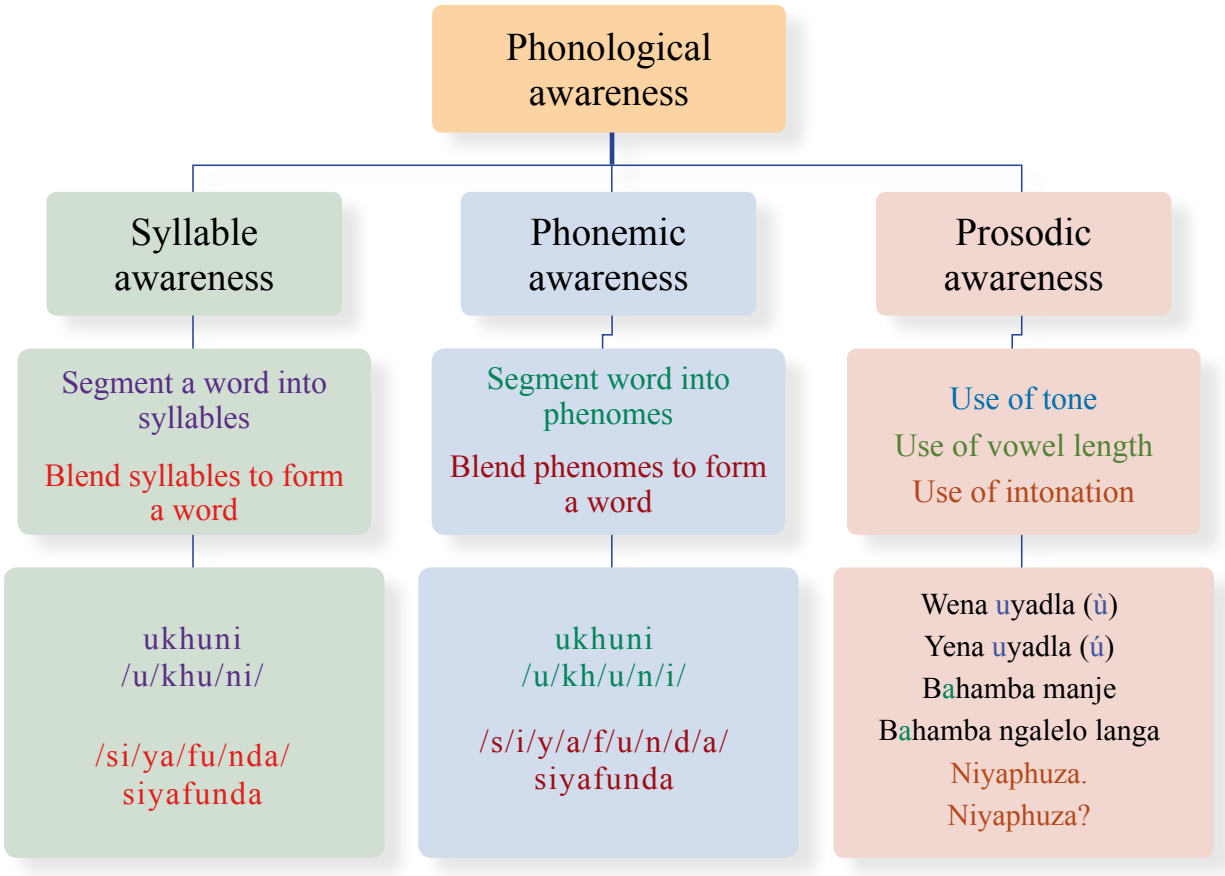


Figure 2: Components of phonological awareness in African languages

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 spoken language**. The beginner reader has to understand that spoken language comprises different sound units and how these units relate to each other. Phonological awareness includes syllable awareness, prosodic awareness and phoneme (or phonemic) awareness.
- ***Phonics:*** Phonics is the method of teaching the grapheme-phoneme relationships used **in written language** (reading and writing). Phonics requires learners to know and match graphemes (letters or letter combinations) with word sounds (phonemes), learn the rules of spelling, and use this information to decode (read) and encode (write) words. Phonics

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.

- Writing involves a visual encoding system that represents spoken language. It therefore stands to reason that to be able to **decode** text, a child needs to understand the coding system by knowing the significance of each symbol (letter/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.

Sesotho and isiZulu (like the other South African languages) use an alphabetic writing system, employing the 26 letters of the Roman 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 to make sense of the sentence. This knowledge and skill set should ideally develop to a level where this process happens so quickly and automatically that it occurs below the level of the conscious awareness.

Both phonological awareness and phonics entail the identification, segmentation, blending, deletion and substitution of syllables and phonemes, the main difference being that the former is done orally/aurally with sounds (listening and saying), while the latter is done in with letters and writing (reading and writing). These differences are summarised in Figure 3 below.

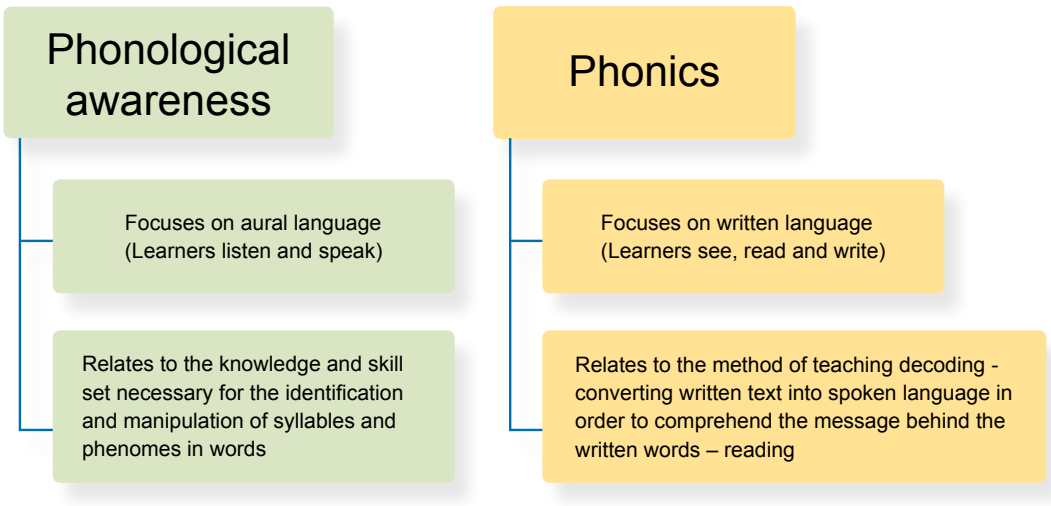


Figure 3: The differences between phonological awareness and phonics

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 (writing system) and the sound system (phonology) of the language concerned. On the other hand, knowledge of morphemes (the smallest meaningful parts of words) contributes to the understanding of the meaning of words, their derivation and relation to other words in the sentence context. 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 standardised tests for phonological awareness in languages such as English, no standardised tests presently exist in the African languages. Phonological awareness tests have been developed for use in research. For example, Wilsenach (2019) developed phonological awareness tests for Northern Sotho, Schaefer (2021) developed tests for isiXhosa and isiZulu and phonological awareness tests were also developed as part of the Early Learning Outcomes Measure (ELOM) for tracking early language and numeracy skills across all the languages in children aged 4-6 years in South Africa. Although the reliability of these instruments was checked in the research and the instruments peer-reviewed by a wide range of experts, these tests have not yet been formally standardised. This does not mean that teachers cannot assess their learners for phonological awareness. All the exercises suggested for developing phonological awareness in Module 2 can be used as templates for teachers to assess the phonological awareness of their learners. Phonological awareness tests are useful for identifying at risk learners in order to give additional attention to extending their phonological awareness knowledge.

Conclusion

Since phonological (and phonemic) awareness is dealt with in detail in Module 2, this unit briefly recaps some of the main issues pertaining to phonological awareness, as it is an important precursor for developing decoding skills when children are formally taught to read in Grade 1.

Self-assessment activities

These are 'quickie' assessment activities to check how well you have understood key concepts discussed in this unit and whether you are able to perceive the pedagogical implications of such concepts in the teaching of reading.

Note: The key to these self-assessment activities is given in the Appendix at the end of this module. If you score less than 6/8 (75%) for these questions you are advised to re-read the unit again to strengthen your content and pedagogic knowledge.

1. In each of the statements below provide **the appropriate missing word (or words). (6)**

a) Teaching phonological awareness entails teaching three components of human speech, namely the awareness of ……. , …….. and …….. . (3)

b) While rhyme is useful for sensitising learners to the sounds and sound patterns in a language such as English, rhyme does not work that well in the African languages. The African languages use ……. and …….. instead. (1)

c) The written question sentence Uhlala eGauteng? / O dula Gauteng? can have two different meanings. It can mean ……. or …….. (2)

2. Indicate which one of the following statements is **false**. **(1)**

a) A single phoneme may be represented by a single letter.

b) A phoneme may be represented by two or more letters.

c) A syllable is a single phoneme.

d) A phoneme is a distinctive sound in language.

3. Indicate which of the following statements is **the correct one**. **(1)**

a) Since standardised tests for phonological awareness have not yet been developed in African languages, Foundation Phase teachers cannot assess learners' phonological awareness.

b) Focusing on segmentation and blending is important for both phonological awareness and phonics.

c) Phonics should be taught before phonological awareness.

d) In the African languages, children typically develop an awareness of phonemes before they become aware of syllables.

Unit 3: The alphabet, orthography and language structures

Preliminary reading

Module 1: *Description of linguistic concepts underlying teaching reading*

Take cognisance of the following concepts as described in Module 1:

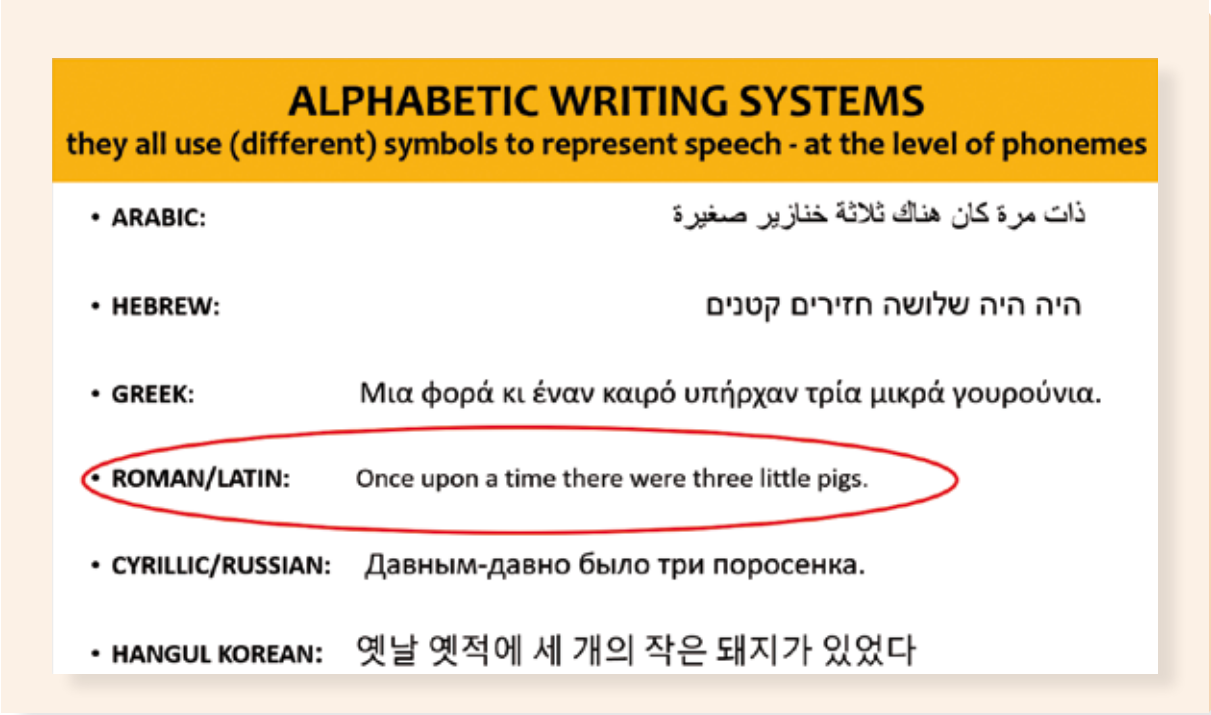
- Alphabetic knowledge and the orthographies of Sesotho/isiZulu

Introduction

As already stated, the term 'decoding' refers to the knowledge and skills that are associated with transforming written text into oral language in order to make sense of it. Decoding demands of the reader an understanding not only of the sound system (or phonology) of the language, but also of its orthography (or writing system) as well as its morphology and sentence structures. The reason for this lies in the nature of alphabetic writing systems. All alphabetic writing systems use letter symbols (the alphabet) to represent spoken language at the level of distinctive speech sounds called phonemes. However, languages differ in terms of how their letters map onto their phonemes. In some languages this mapping is more complicated than in other languages. All South African languages use 26 letters of the Roman (or Latin) alphabet in their written language, but they differ in how these letters map onto their sounds.

Alphabetic writing systems

Note that there are other writing systems that follow the same alphabetic principle for representing spoken language in writing, but they use different letters to do so, as shown in the examples below. Some of them read from right-to-left as in Arabic and Hebrew, while most read from left to right. In Arabic and Hebrew there are only letters for consonants. Diacritics are added to signal vowels or they are inferred from the context.



In this unit the focus is on the Roman or Latin alphabet, which is used by all written languages in South Africa.

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: "Why? What makes a text in one language more difficult to read for young readers than the same text in another language?"

Two main factors influence the ease or difficulty of reading a text in a particular language, namely the characteristics of the coding system (the orthography) and the grammar (language structure) of the language. We will now focus on the factors that have an impact on the level of difficulty to learn to read in a particular language.

Transparent and opaque orthographies

Languages differ in terms of how 'transparent' or 'opaque' their writing systems (or orthographies) are. The closer a language is to a one-to-one relationship between speech sounds and the graphemes that represent them the more transparent (or shallow) the orthography is. On the other hand, the orthography of languages with a many-to-one or one-to-many relationship between graphemes and phonemes is called an opaque or deep orthography.

In South Africa, the African languages and Afrikaans have transparent orthographies. In contrast,

English and French have opaque (or deep) orthographies. Consider for instance the representation of the /f/ sound of Sesotho and isiZulu which is always represented by the grapheme f as in the Sesotho verb stem -*le**f**a* and the isiZulu noun *i**f**a*. However, in English the /f/ sound may be presented in four different ways, namely by f as in ***f**ish*, ph as in ***ph**ysics,* ff as in *pu**ff**,* or gh as in *tou**gh***.

One of the factors that makes early reading a bit challenging is that languages have more speech sounds (phonemes) than the letters of the alphabet that represent them. There is no absolute one-to-one relation between the speech sounds and the letters that represent them in writing (although Finnish comes close). 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 in Table 2:

Table 2: Different letter-sound relationships in alphabetic orthographies

One letter represents one sound	These are letters that always represent only one speech sound. This is mostly the case in African languages. For example, in isiZulu the letter **a** always represents the low central vowel /a/ as in the word *amadada*. The letter f represents the sound /f/ as in -*funda*. So too the letter l always represents the sound /l/ as in the word *ilala*. Similarly the letter x in the orthography represents the lateral click /‖/ as in the word *ixoxo* and the letter q represents the sound /!/ as in the stem -*qeda*.

One letter represents different speech sounds	Instances of different sounds being represented by a single letter occur commonly in English (which is why its spelling is so tricky!). English has 20 vowel phonemes but only five vowel letters and the letter y to represent them all. For example, the letter a represents different vowel phonemes pronounced differently in words such as *apple, father, able, apart.* This seldom occurs in transparent orthographies, and often only in rather subtle cases, as shown below in Sesotho and isiZulu. The grapheme **e** of isiZulu represents the two mid vowel /e/ sounds in the words *isela* [ɛ] and *leli* [e]. Even though these two vowels differ slightly in their pronunciation they are written using the same grapheme. The vowel [e] in the word *leli* 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/. The pronunciation of the sound represented by the grapheme *k* of isiZulu may also differ slightly. Consider the pronunciation of the /k/ sounds in the words *ikathi* and *ukulala*. The /k/ in *ikathi* is pronounced as an ejective sound [k'], while in the word *ukulala* it is pronounced as [ǩ], sounding more like a [ġ]. These sounds nevertheless form a single phoneme /k/. Another example is the /b/ sound in *imbila* ('rock hyrax') and -*baba* ('bitter'). The *b* sound in *imbila* is an **egressive** sound, while the *b* sound in -*baba* is **ingressive**. These two sounds do not constitute different phonemes though. However, the two *m* sounds in the words *imithi* ('medicines') and *mina* ('here, take it') comprise two different phonemes. The /m/ in *imithi* is represented by the phoneme /m/. The *m* sound in *mina* is pronounced with a breathy voice and is a separate phoneme, namely /mɦ/ even though it is not distinguished in the orthography.
A combination of letters represents one speech sound	The speech sound [ɬ] of isiZulu is represented by two letters, namely *h* and *l* as in the word *isihlahla*. These two letters together represent a single speech sound. (Two letters that represent a single phoneme are also called a digraph – where the prefix *di* means two.) The same is true for the speech sound [ʤ] of isiZulu in the word *badlala* which is represented by the two letters *d* and *l*. Also consider the use of the letter h after a consonant to indicate **aspiration** as in these: bh, kh, ph, th, ch, qh, and xh. Another example is the letters tsh representing the sound [tʃ] in the word *itshe*. (Three letters that represent a single phoneme are also called a trigraph – where the English prefix *tri* means three.)

Different letters or combinations of different letters represents the same speech sound	In English there are many cases of different letters or letter combinations representing the same sound, for instance the f sound that may be represented by the letter f (in *fish*), the letters ph (in *physics*) or the letters gh (in *tough*). Sesotho and isiZulu do not have instances of different letters representing the same speech sound.

Leaving aside other characteristics of languages, research has shown that transparent orthographies are easier and quicker to master than opaque orthographies. In opaque writing systems there are many exceptions and irregularities in the relationships between sounds and graphemes, thus making them more difficult to master. (See for instance the research by Aro and Wimmer (2003) and Seymour, Aro, and Erskine (2003) who compared early reading in 14 European countries and found that most children learning to read in transparent languages could master the code by the end of Grade 1 with 95% accuracy while children learning to read in English struggled with accuracy and took at least 1-1½ years longer.)

Other factors influencing the level of difficulty in learning to read

Besides differences in the transparency or opaqueness of an orthography, there are also other factors that can influence the early stages on learning to read (and write). Even though the phoneme-grapheme code in transparent orthographies is mainly regular, some irregularities are not uncommon, and there are also additional factors that can affect the level of difficulty to learn to read in them. In this section five such factors are discussed which are reflected in the differences between the orthographies of Sesotho and isiZulu:

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

Before we discuss these factors, let us first consider the main orthographic differences between these two languages respectively.

Disjunctive and conjunctive transparent orthographies in African languages

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**.

Both are transparent orthographies but the difference between these two systems lies in the word division applied in them.

Vowel changes

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 the following:

- vowel elision (one vowel is simply omitted), for example si+akha indlu > *sakha indlu*;
- semi-vowel insertion (/w/ or /y/ is inserted between the two vowels), for example a+u > *awuboni inunu*;
- replacement of a vowel with a semi-vowel (/w/ or /y/), for example u+a > *wakha isibaya?*;
- vowel coalescence (the two vowels coalesce to form a new vowel /a/ + /i/ > /e/: ngina+inja > *nginenja* or /a/ + /u/ > /o/: sihamba na+umama > *sihamba nomama*).

The vowel changes that take place in these instances necessitate the need to write these words as one word even though they are linguistically not one word.

Because of the conjunctive nature of the writing system the orthographic words of isiZulu are often longer than those of Sesotho and this makes it more challenging to learn to read in isiZulu than in Sesotho.

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

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 necessitated 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 challenging to change the orthographic conventions at this stage. Bear in mind that inconsistencies in orthographies are not uncommon across languages. Sesotho and isiZulu are thus not unique in this regard.

In learning to read, the focus is on the orthographic word, in other words, words as they are separated by blank spaces between them in written form. We will therefore not elaborate on the criteria used to identify linguistic words. In the following sections we consider other factors that can affect learning to read in orthographies.

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 reader to read in these languages. There are for instance very few monosyllabic words in isiZulu and Sesotho.

A beginner reader of isiZulu will be able to read short words such as *ifa* ('inheritance'), *ugu* ('side/bank/shore of sea/river') or *uthi* ('stick') easily but longer words such as *umantshingeyana* ('night adder (snake)') or *ubhekeyahlulwayo* ('a person who observes the one who is beaten/a person who sits on the fence') are 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* (< #ugobela#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, i.e. 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 in these languages. 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/, /n/ and /m/ may also be syllabic, as in /m/m/e/, /n/na/ and /l/la/.

Bear in mind that the phoneme /m/ in isiZulu is syllabic when it is used as the shortened form of the prefix of class 1 and 3 nouns. The noun prefix -m- is used before polysyllabic noun roots while the prefix -mu- is used before monosyllabic roots. Compare for instance the syllabic structure of the class 1 and 3 words *u**m**fana* (> /u/**m**/fa/na/), and *u**m**thombothi* (> /u/**m**/tho/mbo/thi/) as opposed to *u**mu**ntu* (> /u/mu/ntu/) and *u**mu**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.*

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. Consider for instance these syllables in 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- and -tsh-, as single graphemes/digraphs instead of trying to decode the letters individually. In addition, they need to recognise graphemes in consonant clusters such as -ntshw- (n+tsh+w), -ngk- (ng+k), -ngc- (ng+c) and -nhlw- (n+hl+w) quicky and fluently.

Complexity of the morphological structure of words

The fact that the African languages are agglutinating languages with a very productive morphology results in words being morphologically complex and long. This is especially true for the Nguni languages and isiZulu in particular because of the use of the conjunctive orthography.

The morphological analysis used here follows a word-based approach to morphology as described by Posthumus (1994) since this approach is the most appropriate approach for morphological analysis in the African languages. Within the word-based approach the starting point of morphological analysis is the word (and not the root). The morphological processes applied to the word are affixing (an umbrella term for prefixing, infixing and suffixing), morphological substitution, deletion and reduplication.

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'.

Various morphemes have been added to the original word (sifunda) to modify and extend its meaning. The result is that this word is now quite long and morphologically complex and relatively difficult to read (and comprehend). Readers need to work their way through the word and cannot just recognise the word at a glance. If any phonemes or syllables are skipped, then word meaning is lost. The beginner reader finds it difficult to read such long words, as indicated by eye movement studies that show that there is more regression in the eye movement when readers read such long words (Van Rooy & 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 am still going to help her/him 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. If they lack alphabetic knowledge of the letter sounds, the task becomes almost impossible.

Although complex syntactic structures also pose a challenge for reading across all 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 (or standardised) 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 challenging to talk or write on such topics in Sesotho and isiZulu. Vocabulary development (and terminology development in particular) is therefore of paramount importance. There are various initiatives to build up lists of scientific vocabularies for the African languages.

The convention of not marking suprasegmental qualities in the orthography

Diacritics are symbols that are added to a orthography to draw attention to sound qualities of language that are signalled by the resultant grapheme, for example tone or length of vowels. Sesotho and isiZulu do not use diacritics 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.

As discussed earlier in Unit 2, 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. Because of the absence of diacritics 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* (> ingáthegiswa) *le ncwadi* ('This book should not be sold'). When reading this sentence, the reader must decide on the tone on the morpheme -nga- but in written form that decision can be made only 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.

The fact that vowel length is not marked in the orthography can also pose a challenge when reading, as previously mentioned in the sentence *Basebenza esitolo,* which 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-. 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. The cue 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 needs to be established in order to determine whether there should be length on the vowel of the subject morpheme. Readers sometimes 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 heights 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 clear that the absence of diacritics in the orthography of Sesotho and isiZulu can often create ambiguity in sentences, which poses challenges for the beginner readers in these languages. Teachers must point out such ambiguities when they arise in a text and guide learners in how to use contextual cues to disambiguate them and pronounce them appropriately.

Alphabetic knowledge

Children's alphabetic knowledge is a critical foundational skill of early literacy acquisition for alphabetic languages and is recognised as perhaps the most robust predictor of decoding ability and reading in the early grades (Adams 1990; Torppa, Poikkeus, Laakso, Eklund & Lyytinen 2006). 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.

We explore these differences in the sections below.

Alphabetic knowledge: Learning letter names

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. A learner learning to read in English has to know for instance that the letter c may represent the sound /s/ as in *centre* or the sound /k/ as in *cake* or /ʃ/ as in *ocean*.

There are generally more phonemes in a language than letters of the alphabet. There are only 26 letters in the Roman alphabet used to write English, Afrikaans and the African languages, so there are only 26 letter names to learn – even though these letters represent all the distinctive speech sounds (phonemes) of these languages (these 26 letters represent 44 phonemes in English, 37 phonemes in Sesotho and 46 phonemes in isiZulu, as discussed later).

It is thus easier and quicker to learn letter names than it is to learn the sound associated with a letter (or letters). Teachers often use alphabet songs to teach children letter names in the different languages and this is usually done as early as in Grade R.

Research has found that children learn to read more easily if they know letter names (i.e. they can recognise the shape of the letter and can say the name, whether in upper or lower case, when

presented randomly, i.e. not in sequence), and later spelling becomes much easier if letter names are known. Knowing letter names (in the target language) by the time learners start learning letter-sound relationships accelerates the latter process.

Even though letter-name knowledge enables learners to refer to the letters by name and thus to talk about literacy more easily and also facilitates the learning of grapheme-phoneme relationships, letter-sound knowledge is the foundational skill in learning to read, as will be discussed below.

Alphabetic knowledge: Letter-sound knowledge

Letter-sound knowledge refers to the relationship between a particular letter of the alphabet and the sound it represents. (In opaque orthographies, a letter may represent more than one sound.) This knowledge is related to the phonemic level, which is important in learning to read across alphabetic languages.

Learning letter sounds usually starts in Grade 1 when phonics is taught. It takes longer to learn letter sounds than letter names because, as pointed out earlier, there are usually more phonemes in a language than letters of the alphabet. In such cases, some letters 'double up' and two or three letters can be used to represent particular phonemes, as in digraphs where the letters th representing the **aspirated** sound [th] in the verb stem -*thatha* ('take') or trigraphs, where the letters tsh represent the sound [tʃ in the word *itshe* ('rock/stone').

Well-known sequences of letters that represent a single phoneme in isiZulu are for instance the kh in -*khipha*, ph in -*phuma*, th in -*thatha*, sh in -*shaya*, hl in -*hlehla*, dl in -*dlala* and kl in -*klinya*. The h after certain consonants indicates that the sound is aspirated (consider for instance the sounds /k/ compared to /kh/). On the other hand, the use of a g before the click sounds indicates that that click is pronounced with murmured voice, as in -*gcaba,* -*gqiba* and -*gxuma*.

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. That is not necessarily correct.

If the nasal /n/ appears before the consonants /g/ and /y/ the **nasal** changes and becomes **homorganic** (sometimes written as /N/ to indicate that) forms one phoneme with the following consonant. The nasal /n/ becomes phonetically [ŋ] when followed by /g/ as in the word *ingubo* (> /i/N/g/u/b/o/). However, the /n/ becomes a [ɲ] when followed by a y in a word such as *inyama*, phonologically thus /iNy/a/m/a/. The letters n+g are used as a grapheme to represent the sound/phoneme /ng/. Similarly, the letter sequence n+y is used to represent the sound/phoneme /ny/. However, note that the letter sequences n+t (in the word *intuthu*) or n+d (in the word *indoda*) or m+b (in the word imbuzi) for instance do not form a single sound and are therefore called consonant clusters or blends.

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 *unwabu* therefore comprises the phonemes /u/n/w/a/b/u, while the word *utshwala* therefore comprises the phonemes /u/tsh/w/a/l/a/.

Consider the phoneme analysis of the words below that further emphasises that the semivowel /w/ retains its status as a separate phoneme in the sequence /Cw/.

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; instead, these sequences are regarded as consonant blends. (Consult the appendices at the end of this module for lists of the isiZulu and Sesotho phonemes and blends.)

In some languages, especially those with an opaque orthography, different letters or letter combinations may represent the same sound, as in the case of the English /ʃ/ sound, which may be represented by the letter c (in *ocean*), the letters sh (in *she*) or the letters -tio (in *position*). 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 word *izimbambo* ('ribs') or **ingressive** as in the stem -*baba* ('be bitter') as indicated earlier. However, this happens to a far lesser extent than it does in opaque orthographies such as English.

Letter-sound knowledge is a critical foundational skill of early literacy acquisition. Learning letter-sound relationships develops children's awareness of individual sounds within words and thus serves as the basis for word reading (Muter & Diethelm 2001). Beginner readers use their letter-sound knowledge to sound out words when they start reading. Conversely, an inability to grasp the letter-sound principle, negatively affects the development of decoding (Nieto 2005).

Research done in South African schools shows that children generally have weak letter-sound knowledge, which in turn leads to poor word reading. Classroom research in South Africa suggests that teachers often spend a lot of time getting children to chant together letter sounds (a, e, i, o, u) and simple syllables (ba, be, bi, bo, bu) in a predictable sequence. However, this chanting does not lead to successful reading. Chanting letters or syllables in chorus may create

an impression of learning, but many children simply memorise the predictable sequences and when tested individually, they have difficulty identifying letter-sounds correctly or recognising individual sounds in syllables. In one study it was found that up to 56% of learners did not know any letter-sounds by the end of Grade 1 despite plenty of chanting of syllables and letters in the classrooms (Zenex Report 2018). It is only when learners are able to associate letters of the alphabet quickly and accurately with the speech sounds they represent that they are able to read words.

Large scale research based on thousands of learners across languages in South Africa found that learners who knew less than 40 lcpm could not read words (Ardington et al. 2020; Wills et al. 2022). This is why the Grade 1 letter-sound benchmark of 40 letters correct per minute (lcpm) has been established.

Debates on 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 & Levin 1975) maintain that the claim that letter-name knowledge in English is a strong predictor of preschool children's future ability to learn to read is controversial. However, many studies have found 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 (Share 2004). Ehri (1986) points out that the ability to recognise, distinguish and recall the shapes and orientation of visually confusable letter-symbols is quite an achievement for preschool children. She thus argues that letter-name knowledge can be a useful indicator of the extent to which a child has mastered this perceptual learning task. Several other researchers (e.g. Snow, Burns & Griffin 1998; Treiman, Kessler and Cury Pollo 2006) also argue that learners' ability to identify the letters of the alphabet by name is a reliable predictor of how readily they will learn to read.

Apart from being a 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) the development of phonological awareness skills, and (3) the acquisition of letter-sound knowledge and phonemic awareness.

Learning letter names draws children's attention to letter shapes, which in turn familiarises children with seeing and recognising letters and sequences of letters in writing, thus facilitating the phonological processing of print and the development of phonological awareness. Knowing letter names also involves knowing the letter shape and/or being able to identify the sound represented by the particular letter in a word (*'ay' is for apple, 'bee' is for book* …).

Letter-name knowledge helps the development of phoneme awareness. In fact, a reciprocal relationship exists between early letter-name knowledge and phonemic awareness skills. Badian (1995) found that letter-name knowledge in preschool is the most important contributor to Grade 1 phonemic awareness. Helping children recognise the connections between letter names and letter-sounds may give them an advantage and serve as a bridge between their knowledge of sounds and recognising and manipulating sounds within written words.

Studies demonstrate that letter names provide more than just a label for a letter: they supply convenient labels that uniquely identify the individual letters and enable us to identify letters in written words, and that is important for the child's understanding of the language of literacy. Once children have been taught letter-sounds, using letter names also makes the spelling of words much easier, especially for longer or more tricky words. In spelling competitions (also known as Spelling Bee competitions), competitors use letter names to spell words, not letter-sounds.

In sum, several decades of research on this topic provides plenty of evidence that learners who start Grade 1 with good knowledge of letter names in the target language perform better when learning to read than those that do not have this knowledge at the start of schooling (Foulin, 2005; Evans et al. 2006; Treiman, et al. 2006; Manolitsis & Tafa 2011; Reutzel 2015). There are good pedagogical reasons to help children to acquire letter names before formal phonics instruction begins when they are taught letter-sound relationships (also referred to as grapheme-phoneme correspondences).

Letter names in the African languages

Most of the published research done on the role of letter-name knowledge focuses on English, where some letter names differ quite substantially from their letter-sounds (e.g. the names double-you for w and zed for z). How does this topic apply to transparent African orthographies?

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 will say is Hhayi-bo ubhale u-g kunokuthi ubhale u-h. 'Oh no, you have written a g instead of a h.' In other words, she will use the isiZulu letter-names and not the English letter names 'gee' and 'aitch'.

The African languages are characterised by a transparent orthography where the letter names correlate nearly perfectly with the letter-sounds. In other words, there is a close one-to-one correlation between the letter sound and the letter name in isiZulu or Sesotho.

Learning letter names is beneficial for learning letter sounds since both the letter name and the letter sound have at their core the orthographic shape of the letter. (Note that the click sounds of the Nguni languages should be named according to the sounds they represent instead of the English names *cee, que* and *ex*.)

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

> *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.*

You may feel that it is a waste of time to teach the children the names of the letters in isiZulu or Sesotho 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 letter names in their first language as well as in English? 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 these languages. Learning the English letter names also becomes easier since it involves associating the then already known 26 letters of the alphabet and their shapes with their English labels.

However, to be really beneficial for learning to read, the isiZulu or Sesotho letter names should be taught at the preschool level and in Grade R, not in Grade 1. In Grade 1, children are taught letter sounds in phonics lessons.

Teaching alphabetic knowledge

As already indicated, alphabetic knowledge comprises two main sets of knowledge, namely knowledge related to the letter names and knowledge related to letter-sound relationships.

Learners need to understand the basic principle that the letters of the alphabet represent specific speech sounds. Teaching letter names is often done in Grade R (often accompanied by alphabet songs), while the formal teaching of letter-sound relationships starts in Grade 1 via phonics instruction. However, teaching children letter-sound knowledge can also start informally in Grade R by helping learners to identify and write at least the first letter – or all the letters – of their name. In some countries such as the United Kingdom both letter names and letter sounds

are taught even before Grade 1. Blending and segmentation, as discussed in Unit 4, are also an important part of alphabetic knowledge.

The guidelines in the ***Curriculum and Assessment Policy Statement*** (CAPS) (Department of Basic Education 2011a, b, c) suggest 15 minutes per day to be spent on phonics activities in Grades 1-3. The ***National Framework for the teaching of reading in African Languages in the Foundation Phase*** also has advice on the teaching of letter sounds (Department of Basic Education 2020: 33-34). Further aspects of this topic will be discussed again in Unit 6.

Assessing alphabetic knowledge

Letter-name knowledge can be assessed in Grade R or the beginning of Grade 1 by asking learners to say the **names** of the letters of the alphabet on sight, in random order, on flashcards or charts, in upper case or lower case (see and say), or by asking them to write the letters when the letter name is given (listen and write).

The assessment of letter-sound knowledge in Grade 1 is based on the same principles, only in this case the child is asked to say the sounds of the letters (*What sounds do these letters make*?) when shown letters on flashcards or charts, in upper case or lower case (see and say), or by asking them to write the letters when the letter sound is given (listen and write).

These kinds of assessment can be formative and be done informally with the whole class, in groups, or in pairs during a phonics, Shared Reading or Group Guided Reading (with the teacher walking up and down the aisles in the classroom) to get a quick impression of where the children are at or how well they have understood letter sounds taught in the previous or current phonics lessons, and to inform teaching in the lessons ahead.

However, to get baseline information (at the beginning of the year) or summative information (at the end of a learning cycle or a grade), these assessments are best done one-on-one and timed, with each learner tested for 1 minute, and all errors subtracted from the total number of letters sounded, to arrive at a score of letters correctly sounded in a minute (as done in the Early Grade Reading Assessment (EGRA).

Towards the end of Term 3, Grade 1 teachers should assess their learners' letter-sound knowledge one-on-one in this way to determine whether the learners have reached the Grade 1 benchmark of 40 letters correct per minute (lcpm). There is then time in Term 4 to consolidate alphabetic knowledge and reteach those letter sounds that learners still find troublesome. Although Grade 1 learners should be learning to read words and sentences throughout the year as they learn their letter sounds, it is very important for them to reach the benchmark of 40 lcpm by the end of the year otherwise they will struggle to read in Grade 2.

The assessment of alphabetic knowledge is usually done in Grade 1. However, due to the slow rate of reading development and the low literacy levels in developing countries, assessing alphabetic knowledge with older learners can help to distinguish readers from non-readers who

have not yet grasped the relationship between print and sound. For example, Grade 2 or 3 teachers may want to do baseline letter-sound assessments at the beginning of the year if they think that there are still learners in their class who have not yet acquired adequate letter-sound knowledge.

Conclusion

This unit focused on the fact that alphabetic writing systems represent spoken language at the phonemic level, i.e. the level of individual sounds in a language. However, alphabetic languages differ in the extent to which their orthography reflects the letter-sound relationships systematically. Writing systems in which there is a generally regular and predictable relationship between letters and their sounds are called transparent (shallow) orthographies, while those with more complicated relationships between letters and their sounds are called opaque (deep) orthographies. While children generally learn to read more easily in transparent orthographies than in opaque orthographies, there are also other factors that can make learning to read a challenge. These include factors related to word length, syllable complexity, morphological complexity, standardisation of words and spelling, and the marking of suprasegmentals in written language.

Teachers of reading need to be aware of complications caused by the inherent language characteristics and the orthography of the particular language in which they are teaching children to read. They also need to be aware of different ways in which children become literate, through letter names and letter sounds.

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 a reader must decode the written text by converting the letters (the code) into spoken language via the sounds that the letters represent. A beginner reader learns to name the letters of the alphabet and recognise their shape, and also learns to associate a speech sound with each letter or grapheme in sequence and in this way 'sounds out' each word and then links the meanings of the words to make sense of the sentence.

Self-assessment activities

These are 'quickie' assessment activities to check how well you have understood key concepts discussed in this unit and whether you are able to perceive the pedagogical implications of such concepts in the teaching of reading.

Note: The key to these self-assessment activities is given in the Appendix at the end of this module. If you score less than 6/8 (75%) for these questions you are advised to re-read the unit again to strengthen your content and pedagogic knowledge.

1. In each of the statements below provide **the appropriate missing word (or words). (6)**

a) The writing systems used by the South African languages make use of the ……. alphabet. (1)

b) When teaching reading in English and in isiZulu/Sesotho the teacher needs to remember that based on the phoneme-grapheme relationships English has a(n) ……. orthography while isiZulu/Sesotho has a(n) …….. orthography. (2)

c) Although testing ……..…. knowledge does assess children's familiarity with letters of the alphabet, it does not assess their knowledge of the …….…represented by letters. (2)

d) In English the letters of the Roman alphabet represent 44 phonemes whereas in Sesotho/isiZulu they represent …… (1)

2. Indicate which one of the following statements is **false**. **(1)**

a) Word identification is part of decoding.

b) Phonological awareness is part of decoding.

c) Oral reading fluency is part of decoding.

d) Sentence structure is part of decoding.

3. Indicate which of the following statements is **the correct one**. **(1)**

a) A grapheme is a letter or a sequence of letters that represent a single speech sound.

b) The alphabetic principle entails knowledge of letter names, letter sounds and phonological rules.

c) The synthetic phonics approach is about teaching the grapheme-phoneme relationship when the learner comes across a particular sound and has to write it.

d) The assessment of letter-sound knowledge is typically done towards the end of Grade 3.

Unit 4: Phonics, phonics programmes and phonics lessons

Introduction

Most teachers claim to teach phonics, yet research in South Africa in the past decade indicates that teachers teach phonics in different ways and at the end of Grade 1 many children hardly know any letter sounds and cannot read words (Pretorius & Spaull 2022). This suggests that phonics as an early reading method of instruction is not well understood or effectively implemented. In this unit we explain what phonics entails and identify five principles associated with effective phonics programmes for teaching reading in languages with an alphabetic writing system. We also identify characteristics of a good phonics lesson to guide you in this aspect of early reading instruction.

What is phonics?

Phonics refers to the method of teaching beginner readers the relationship between the distinctive sounds in the language and the graphemes that represent them in writing. The primary focus of phonics instruction is to help beginner readers understand the link between speech sounds (phonemes) and graphemes (the set of letter symbols) that represent the individual sounds in writing, to use that knowledge to blend letters to form words in the particular language and thereby also to teach spelling. Beginner readers initially sound out the letters and words slowly and consciously but with much practice, decoding occurs rapidly and eventually automatically (without conscious attention). This will in turn free up more working memory to focus on the meaning of the words, and how the word meanings contribute to sentence meaning.

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 behind them. It is the tool that enables us to decode written language – converting it into spoken language and thereby enabling us to comprehend what it means. 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 and learning spelling patterns in the language.

If learners have already been sensitised to phonological awareness in Grade R and they can already identify syllables and individual sounds in words, then phonics instruction can readily build on this and extend their phonological development to the written mode. If children's phonological awareness was not developed in Grade R, then this needs to be built into the phonics programme in Grade 1 (and can also be done in Speaking and Listening). The same phonological operations or tasks that pertain to phonological awareness pertain to phonics as

well. The difference is that phonological awareness basically pertains to oral language, while phonics pertains to written language. Moreover, as in the case of phonological awareness, in phonics the operations or tasks also apply to both syllables and phonemes.

There are various approaches to how phonics is taught and, particularly with African languages, debates on whether the initial teaching of reading should start with decoding syllables or individual phonemes. These issues will be raised in the following section, which deals with the principles of a good phonics programme.

The principles of a good phonics programme

A good phonics programme is one which is effective in getting children 'out of the starting blocks', so to speak, so that they can start reading words and connected text as soon as possible.

Learning how to read is not *only* about phonics, but a good phonics programme is an essential component of early reading instruction. Implementing a phonics approach in the early grades does not imply that the focus in reading must be on phonics only. All the 'big five' components of reading are important. Phonics refers to developing the so-called technical aspects of beginning reading. It entails the process of teaching learners the relationships between graphemes and phonemes so that they can decode texts.

This means that they should learn how the writing code works fairly quickly so that they can blend letter sounds to form words. Once they can read words, their accuracy and speed in reading increases so that they have enough working memory to understand what they are reading.

A good phonics programme must be structured in such a way that the grapheme-phoneme relations of the target language are taught systematically and up-front. Learners are unlikely to read connected text before they have been taught at least some of the individual letter sounds and how to blend them to form words – although there are usually some precocious readers in a class who learn to read early and far quicker than most of their peers. All learners benefit by learning to read using synthetic phonics, while for most it is essential.

Research over the decades have highlighted specific principles associated with phonics programmes that have been shown to be effective. Effective phonics programmes are ones that are:

- Systematic
- Explicit
- Include blending and segmentation activities
- Are done in conjunction with handwriting/writing
- Provide plenty of opportunities for practice and consolidation
- Make use of decodable texts to practise the letter sounds that have been taught.

Each of these principles is discussed below.

Good phonics programmes are systematic

The letters of the alphabet and the sounds they represent should be taught in a systematic way. There should be a logic behind the scope and sequence of the letter sounds taught per term that is appropriate for the language in which reading is taught, e.g. starting with the most common phonemes/graphemes in the language in Term 1 of Grade 1 and dealing with the more complex ones later, in Term 2, 3 or 4. If a sound represented by a digraph occurs with high frequency in a language, then that digraph should be taught early too, e.g. kh and ph in isiZulu (but only after k, p and h have been taught).

The curriculum usually provides guidelines for the scope and sequence of the phonics programme. In any good phonics programme the order in which the letter sounds are taught is guided by three basic considerations:

- **A sound understanding** of the phonemes in a language and the way in which letters/graphemes map onto the phonemes/sounds in the language. This includes knowledge of single sounds/phonemes represented by single letters, graphemes such as digraphs or trigraphs, and the graphemes that make up consonant sequences (blends) that occur in the language – e.g. the sound /hl/ is represented by the grapheme digraph -hl- and should not be read as h+l. Similarly, the consonant blend -nhl- comprises the graphemes n+hl and must not be read as n+h+l nor as nhl. This is important content knowledge for reading teachers to have so that they can teach their learners effectively. (See Appendices B and C for lists of phonemes and consonant blends in isiZulu and Sesotho.)
- **Simple before complex**: Simple before complex is a sound pedagogical principle, so single letter sounds are usually taught first before more complex letters or grapheme sets like digraphs, trigraphs and consonant blends. For example, h and l should be taught before hl, t and sh before tsh, q before gq.
- **High frequency before low frequency:** Letter sounds that occur very frequently in a language should be taught before those that occur less frequently. For example, l occurs more frequently than f in isiZulu so it makes sense to teach l before f, while r will be dealt with much later due to its limited occurrence in isiZulu. (In contrast, r is a very common consonant in English so unlike isiZulu, it will be taught quite early in an English phonics programme.) Although it makes sense to start with single letters because they are easier, that does not mean that it is imperative to finish all single letters before continuing with digraphs and trigraphs. African orthographies have many diagraphs, and there are some digraphs that occur frequently and must be taught early, for instance ph [p^h], kh [k^h], th [t^h] and ng [ŋ] of Sesotho and isiZulu. It is difficult to find texts in isiZulu and Sesotho that do not contain these graphemes, so high frequency digraphs like these could be introduced in the second term of Grade 1.

Consonant blends are usually taught after the basic letter sounds in the blends have been taught. Consonant blends should ***not*** be taught as new sounds because they do not constitute new

sounds; rather, they are sounds that happen to follow one another in immediate succession in a word. The learners will already have been taught the individual letter sounds, so teaching them blends is a matter of teaching them to blend the already known letter sounds. Bear in mind that consonant blends are visually more complex so beginner readers often struggle to read sequences of consonants and should therefore be given plenty of practice reading words containing such forms. Learners need to practise seeing these sequences and getting their eyes habituated to the patterns so that they can recognise them quickly and accurately.

Say you have already taught the letter m and you now introduce the b in a subsequent week. You obviously start off teaching the letter b that maps onto the sound /b/ in the normal way and let the learners do the normal segmenting and blending exercises involving the new sound. After the learners have mastered the b letter sound, in a following phonics lesson you focus on the -mb- sequence, indicating that the /b/ may also be preceded by /m/ (both of which have already been taught previously). You then supply words containing the sequence m+b such as *imbuzi* and *imbali*. When you pronounce the word *imbuzi* you do so in a way that clearly emphasises the constituent sounds /m/ and /b/ and draw attention to the graphemes m+b. The consonant clusters or blends are therefore introduced once the relevant single letter sounds that constitute them have been taught. It is important to alert the children to the fact that -mb- is a sequence of two phonemes/sounds represented by two graphemes and remains exactly that, since these two graphemes do not blend to become a 'new single sound' as in the case of digraphs. In other words, phonemes map onto graphemes such as single letters, digraphs or trigraphs but not onto consonant blends; blends represent two or more distinctive sounds/phonemes (depending on how many graphemes are in the blend). Consult the appendices containing the isiZulu and Sesotho blends. The constituent phonemes are indicated for each blend.

It is clear from the above discussion that reading teachers should have a good understanding of the set of phonemes in the language in which reading is taught as well of the set of graphemes that represent these phonemes (e.g. single letters, digraphs and trigraphs) and the different letter-sound sequences (i.e. consonant blends). Poor phonics instruction happens when teachers do not have a clear understanding of the differences between phonemes, digraphs, trigraphs and consonant blends. Consult the lists of these for isiZulu and Sesotho provided in Appendix B and C respectively at the end of this module to make sure that you understand these differences.

Good phonics programmes are explicit

Alphabetic writing systems are quite abstract, detailed representational systems that have evolved over the centuries in different parts of the world. The vast majority of young children of 6-7 years will not figure them out naturally. Research consistently shows that all children benefit if they master the alphabet quickly and are taught the letter-sound relationships in an explicit manner. This includes gradual release routines like *I tell you, We do it together, You do it on your own.* In the teacher-led *I tell you* part, the teacher explicitly explains and shows what the letter is, what sounds it represents, how to form it (often using 'air' instructions like *To write the letter for /b/*

we start at the top and come down straight down to the line, then we go up a bit and give it a tummy b). The teacher then shows how to blend it with other sounds to form words.

Good phonics programmes include blending and segmenting into their daily activities

Phonics is not just about teaching children letter sounds, it is also about teaching them to blend and segment the letter sounds. Blending and segmenting are skills that show children how to use their alphabetic knowledge strategically, e.g. to blend sounds to form words, and how to 'unpack' (segment) a word into its sound segments. These are very useful skills for children to use when they come across new, unfamiliar words in a text: *What is the first letter sound? And then? Let's put them together – what does it sound like?* The idea is to teach the letter sounds in a sequence that enables learners to start blending them to form words/verb stems as soon as possible.

It makes sense to introduce the vowels early on because they occur with high frequency since every syllable must contain a vowel. Because of this, and because they form a small grapheme set (there are only five vowel letters in African language orthography), some teachers like to teach all five vowels first to high mastery level, and then introduce the consonant letters, so that children can then readily blend consonants and vowels to read words. If this approach is adopted, then it is important to teach all the vowel letter sounds ***quickly*** (e.g. within a single week). If the pace of teaching is slow and the teaching of vowels is spread over 2-3 weeks, then children may become bored and fail to see the connection between print and language, as they will be unable to blend letter-sounds to form words, since one cannot form words using vowels only.

Another approach is to alternate the teaching of vowels with high frequency consonants until all the vowels have been taught and then continue introducing the remaining consonants. In this way, children can start blending letter sounds to form syllables and words from the start. For example, if the vowel-consonant sequence of ɑ, l, e, m, i is followed, the blending and segmenting exercises can involve words and verb stems such as *la, lala, ala, alala, le, lele, alele, ma, mama, mema, ilele, ilala, ilalela, imali, alima, amila, ilila, alila, imile* and *alilaleli*. The ideal is to get the learners to blend the sounds to form words or segment words into their constituent sounds immediately after introducing a new sound.

Good phonics programmes include plenty of opportunities for practice

Children cannot learn new things effectively if they are not given opportunities to practise their newly acquired knowledge by reading words on their own as well as connected text. Making mistakes is a natural part of learning and early readers may initially confuse certain letter shapes and letter sounds. The more they practise recognising the new letter shapes, sounding them out, writing them and blending them with other letters sounds to form syllables and words, the more accurate they become and the faster they can access their knowledge from memory.

Bear in mind that practice opportunities must include learner engagement. Getting learners to chant lists of letters, syllables or words from a blackboard does not constitute effective practice as the sequence is usually predictable and learners can memorise the right responses without understanding the letter-sound mapping involved (learners can participate while looking out the window or at the teacher, which means that they are not attending to the grapheme-phoneme mapping!).

Teachers can use letter, syllable or word cards and display these quickly in random succession while moving up and down the aisles in the classroom, asking learners randomly to sound the letter/syllable/word, or asking learners in particular groups to do so. It is important for the teacher to give corrective feedback immediately, so that learners can learn to 'get it right'. Group Guided Reading and Handwriting/Writing also provide opportunities for learners to put their phonics knowledge to practice in various reading or writing activities (in workbooks or worksheets).

Good phonics programmes include decodable texts for practice and reading homework

Decodable texts are texts that contain only those sounds that the learner has been taught up to that point. Initially, the decodable text will comprise words only, while short sentences will be gradually introduced and eventually the learners will read connected text. If learners are taught high-frequency letter-sound relationships early, they can be presented with stories in decodable texts that consist of words containing only the grapheme-phoneme relationships that have already been taught.

Providing decodable texts is a short-term strategy that is applicable in the early stages of learning to read. It is a sound pedagogical principle to allow children opportunities to practise applying their newly acquired knowledge in order to consolidate knowledge and develop mastery. Giving them texts that contain letter sounds that they have not yet learned can be frustrating for them. After all, one does not include multiplication activities in numeracy practice if children have only been taught addition and subtraction.

Decodable texts should not be confused with **graded texts**. Decodable texts are strategically developed texts suitable for reading at a specific point in the phonics programme. The word choice in decodable texts is determined by the letter sounds taught in the phonics programme up to that point when the text will be read by the learners. Graded texts, on the other hand, are texts that are written on topics and in language that is suitable for learners at a particular level or grade. Graded texts are not restricted in terms of the graphemes-phonemes that appear in them.

Additional Phonics resources

Watch videos from the Funda Wande website (https://fundawande.org/videos-resources) on Phonics teaching. The activities recommended by Teacher Zara are appropriate for all African languages, for example videos 26, 42, 93, 96, 110, 111 (Reading Academy Booklet 1); 51 (Reading for Meaning Module 2); 102, 103, 109 (Reading for Meaning Module 3); 29, 94 (other videos).

Some issues to consider when teaching phonics in the African languages

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 (ma, me, mi, mo, mu). This is not what phonics is about 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, and especially not over and over in a predictable sequence. Instead, it is about getting children to understand the grapheme-phoneme relationships in the target language and using that knowledge to blend sounds so that words can be read and understood. If teachers want to practise learners' recognition of syllables, they must shuffle the sequence (for instance mi, ma, mi, mu, me, ma, mu, etc.) to make sure that the learners are actually reading the syllable, not chanting by rote.

Teaching syllables versus individual sounds/phonemes

Some teachers focus on syllables when teaching phonics in the African languages, and learners practise reciting syllable sequences such as *ma me mi mo mu*. This may seem to make sense, considering that African languages are **syllabic languages**.[1] However, African language orthographies are based on phoneme-grapheme relations, not syllable-grapheme relations, resulting in two serious drawbacks to the syllabic approach.

[1] In linguistics, a syllabic language is one where equal stress is usually given to each syllable in a word (e.g. in *ukunakwa* all the syllables are given similar stress /u/ku/na/kwa/), as opposed to **stress-timed** languages such as English, where one syllable in a word is given main stress, e.g. (in *committee,* only the middle syllable is stressed *com/**mit**/tee).* Most languages in the world are syllabic.

- Firstly, African languages use alphabetic writing systems, not syllabic writing systems (called syllabaries). This means that letters of the alphabet stand for individual speech sounds, not syllables. If using a syllabic approach in phonics, it is thus very important to make sure that children can distinguish the separate letter sounds in each syllable, e.g. that the syllable *ma* comprises the letters m+a. This may seem obvious to us, but remember that we are literate adults; this is not obvious to a young child. Many teachers assume that children perceive -ma- as /m/ +/a/ but this is not necessarily the case. Many children perceive a syllable to be one sound. In other words, they have developed syllable awareness but they have not yet developed phonemic awareness.
- Secondly, there are always many more syllables in a language than individual phonemes in that language. Thus, in isiZulu there are about 391 syllables (see the syllables in Appendix B), but only 46 phonemes (represented by 26 letters of the alphabet). This means that teaching children syllables sequences like *ba be bi bo bu* puts a far greater burden on the memory than teaching them letter sounds. They need to learn 390 syllable sequences! Moreover, the inadmissibility of certain phoneme sequences is very complex. In contrast, teaching them letter sounds is more memory efficient and generative since they only need to learn 46 graphemes (with the 26 single letters/graphemes as the base), and this enables them to combine letter sounds and 'generate' endless variations to represent ALL the phonemes, syllables and words in their language.

In sum, **in the initial stages** it is important that learners develop phonemic awareness and are taught to read by mapping graphemes onto sounds/phonemes. This will enable them to easily recognise and read any syllable in the language without having to learn 390 different syllable structures. **In this way, they can use their alphabetic knowledge to read syllabically,** and they can then divide words into syllables as a word attack strategy when reading in the African languages.

Teaching complex graphemes (digraphs, trigraphs and consonant blends)

As already discussed, in alphabetic languages the orthography is based on the principle of allocating a letter (or letters) of the alphabet to represent a distinctive speech sound (phoneme). The problem is that there are inevitably more phonemes than the letters of an alphabet. This means that languages have to devise other means to signify those phonemes that are not allocated a letter. Two strategies are generally used to address this challenge.

Firstly, diacritics can be used to distinguish between different phonemes. Consider in this regard the use of the circumflex on top of the letter e in Afrikaans to distinguish between the words "se" ('of') and "sê" '('say'). Tshivenda uses a circumflex below the letters n̰, d̰ and l̰ to distinguish these particular phonemes which are pronounced slightly differently from their common counterparts n, d and l.

Secondly, a combination of two or more letters is used to signify a particular phoneme

as in the case of digraphs and trigraphs. Consider the use of the letters h+l to represent the sound/phoneme /hl/ in the word *ihlahla*", the use of the letters k+h to represent the aspirated /k/ sound in the word *ikhehla* or the letters g+x to represent the voiced /x/ sound in the verb stem *-gxuma*. The Sesotho and isiZulu orthographies make extensive use of these strategies to distinguish between phonemes. For example, there are 20 digraphs and 1 trigraph in isiZulu orthography and 11 digraphs and 3 trigraphs in Sesotho. They need to be taught as distinctive phonemes represented by a digraph grapheme, not as letter sounds in sequence, i.e. gx not g+x, kh, not k+h, and nhlw should be seen as n+hl+w.

Languages generally also have sequences of consonants called consonant clusters or bends. In African languages up to 3, 4 or 5 consonants may follow one anther (e.g. nhl, mth, nhlw, tshw, ntshw, ntjhw).

Graphemes with combinations of two or more consonant letters are visually more complex than graphemes comprising single letters, as is often the case in African languages. It is therefore not surprising that digraphs, trigraphs and consonant blends are often taught later in a phonics programme.

There are two issues to consider in this regard:

- Firstly, although the principle of simple before complex is pedagogically sound, it must be balanced against the frequency of a grapheme. If a complex grapheme (e.g. a digraph or consonant cluster) occurs frequently in written language, it must be taught quite early too, otherwise children will have problems reading connected text. For example, the digraphs ph, bh, th, kh can be taught once the consonants p, b, t, k and h have been taught, instead of waiting until all the single letters have first been taught. This will enable children to read connected text more easily, as they learn sets of complex graphemes in spurts, soon after learning the simple graphemes that constitute them. These should be taught as grapheme units, i.e. the phoneme /ph/ is represented by the grapheme ph, and should not be read as p+h. Similarly, with consonant blends, children should recognise the grapheme units within the blend, thus ng+k **not** n+g+k; tsh+w **not** t+s+h+w.
- Secondly, sometimes consonant clusters/blends are taught towards the end of a phonics programme, often only later in Grade 2 or in Grade 3, and often as if they are 'new sounds'. However, this makes the reading of connected texts in African languages challenging, since these letter sequences are fairly common in these languages. Furthermore, as already mentioned, consonant clusters/blends are not new sounds. Once children have been taught the individual graphemes that constitute the blend (e.g. n, th and w in nthw or n, hl in nhl), they can be taught the consonant blend easily, by blending the graphemes in sequence.

Pace of teaching in a phonics programme

The pace of teaching in African language phonics is often drawn out over all three years

of Foundation Phase on the grounds that learners need time to learn letter sounds. However, this has been criticised for being too slow, as most phonics programmes try to teach the alphabetic code quite quickly (e.g. by the middle of Grade 2), so that the rest of the phonics lessons in Grade 2 and Grade 3 can be used for consolidation, for fluency development, for more advanced spelling and for silent reading. Recent research has shown that if the letter sounds are introduced at a faster pace, learners acquire this knowledge better and can consolidate it more quickly than when the teaching pace is slow. What is interesting about this research is that the weaker learners benefit most by the accelerated pace of teaching letter sounds. Although a slow pace in phonic is often well-intentioned, it can be detrimental to the development of strong foundational decoding skills in the long run.

In the first term of Grade 1, one sound a week can initially be taught and thereafter at least two a week. At this rate all the phonemes will have been taught by Term 3 of Grade 2. Once all the phonemes have been taught the phonics lessons should be dedicated to the consolidation of the phoneme-grapheme knowledge and skills to decode words accurately and fast with the necessary prosody.

In isiZulu and Sesotho there are more than twice as many consonant clusters as phonemes. It is important to teach these clusters, even though they do not constitute new sounds. Through teaching, children need to realise that these consonant clusters are merely sequences of already known letter sounds and can be read in the same way that the syllable /CV/ structure is read as a sequence (e.g. /la/ or /mthi/). Because the learners have already learnt the constituting graphemes of the blend, when they are confronted with the blends, it is a matter of teaching them to read the blends by reading the grapheme-phonemes that constitute the blend in sequence. It may thus not be essential to expose the children to all the consonant sequences because self-learning will kick in but giving them practice with all the blends will certainly do no harm.

Features of a good phonics lesson

In the previous section the principles underlying effective phonics programmes were discussed. But how do these principles translate into the daily reading programme in a Foundation Phase classroom? In this section we turn our attention to the characteristics of an effective phonics lesson.

There are five characteristics that have been associated with good phonics instruction in the classroom, as described below.

- **Predictable structure:** The phonics lesson should follow a similar structure each time, especially in Grade 1. Children can learn more effectively when they know what to expect

and they become accustomed to the routines and cognitive gear-shifts in the lesson. They know what to look out for (what is the new letter sound today?), how to recognise it, say it, blend it and write it through guided practice and transfer.

For example, in a 20-minute phonics lesson, it is good practice to start the phonic lesson with a 5-minute slot for revision of OLD letter sounds taught earlier in the week/term. Thereafter, 10 minutes can be set aside for teaching and practising the NEW letter sound. The first part of the lesson is teacher fronted, with systematic, explicit instruction, followed by guided practise. Time must also be set aside for application and transfer, when learners practice applying their alphabetic knowledge, amongst themselves or on their own, and transferring it to different reading or writing contexts (seeing/saying/writing letters, syllables, words and sentences). Because of time constraints, the transfer part of phonics cannot always be fitted into a single phonics lesson, so other literacy lessons can be used for transfer (Shared Reading, Group Guided Reading, Paired Reading, Handwriting/Writing) as well as reading homework.

- The lesson should be **multisensory and fun:** The whole phonics lesson repeats a cycle of *See it, Say it, Hear it, Read it, Blend it, Segment it, Hear it, Write it, Say it, Read it.* Some critics of a phonics approach say that phonics lessons are boring, but anyone who has observed a good phonics lesson knows the opposite to be true. Children come to enjoy these lessons, engage in them because they are familiar with the structure, and develop self-confidence as their mastery of letter sounds improve and they learn to read words with greater ease and a sense of accomplishment.
- The lesson should be **multicomponential:** The phonics lesson moves continuously from parts (the letter sound) to wholes (blending letter sounds into syllables and words), and back to parts (segmenting syllables or words into letter sounds). The teacher uses letter cards, syllable cards and word flashcards as resources to teach letter sounds and how to bend them in a fun and engaging way so that reading can take place. Learning for young children needs to be made concrete so teachers can also use an outstretched arm to represent a word (*baleka*) and then the other arm to show how the word can be chopped up into syllables (/ba/le/ka/) or phonemes (/b/a/l/e/k/a) along the arm. Sliders (slotting letter cards into a holder to form words) can also be used to demonstrate the principles of segmenting and blending letters sounds. Letter cards, syllable cards and flashcards (with words) are used to teach letter/syllable and word recognition and blending.

  Piasta and Wagner (2010) found that the most effective phonics instruction is multi-componential, with activities that require letter recognition (see it), letter naming (say it), associating the symbol with a sound (sound it out), discriminating the letter to be taught from other letters (what's its shape?), teaching upper- and lowercase letters and writing it. 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.

Handwriting activities must come after phonics, and there should be follow up activities for application and transfer of knowledge.

- Phonics lessons include **supportive and corrective feedback**: Mistakes are part of learning, so feedback must be clear, corrective and supportive, and given in a safe learning environment. It is OK for learners to make mistakes, but let them know if they are getting it right or not, and encourage their efforts. Attention to small details is important in reading, so it is important to learn differences between letters that are visually similar (p, b, d or m, n, w or k, x, etc).
- Phonics lessons aim for **mastery of letter-sound knowledge.** Mastery might not be achieved with a new letter sound in a single lesson, but it should be developed incrementally during the week. It is important for teachers to help learners develop accuracy and automaticity with new letter sounds introduced during the week and by constantly revising older letter sounds previously taught. The focus is on developing strong technical decoding skills, so phonics lessons are left brain intensive – they build strong neural networks through explicit teaching and practice, learning to read words in isolation as well as words in sentences and connected text.

These features are summarised in the table below.

Table 3: Features of a good phonics lesson and subsequent practice opportunities

<table>
<tr><th>Revise</th><th>Instruction</th><th>Guided practice</th><th>Transfer (follow up practice)</th></tr>
<tr><td colspan="2">Teacher fronted (with learner engagement, immediate corrective feedback from teacher)</td><td>Teacher and learners
(with corrective feedback)</td><td>Learner groups, pairs and individuals
(Group feedback or self-regulation)</td></tr>
<tr><td colspan="4">Multicomponential, multisensory</td></tr>
<tr><td>Teacher does quickie revision of previous letter sounds (recent or more remote)</td><td>I show you: Teacher introduces new letter and its sound and teaches it explicitly (this is how it looks, how it sounds, how we write it, how we blend it)</td><td>You and me/Let's practise together: Teacher supports learners in practice to blend the letter sound with previously taught letter sounds to read syllables, words and sentences, or to segment words into constituent syllables and sounds</td><td>You do it/On your own:
Phonics, reading and writing activities in workbook or worksheets; activities or games with letter/ syllable or word cards or charts, word lists, sentence cards, connected text.
Activities done in GGR, Paired Reading, or for homework</td></tr>
</table>

Throughout the phonics lesson, the teacher can use phonological awareness activities (for syllables and phonemes) to draw learners' attention to those sound units in language, and then use similar operations in phonics, showing how sounds map onto letters in written language. For example, during the revision part, the teacher can do this in different ways:

- *OK, phonics revision time, my wide-awake class! I've set the timer for 5 minutes, so let's see who knows what! But remember, no shouting, hands up first. What letter sound did we do yesterday? Yes, we did the /z/ sound. How do we write it? Yes, like this (writes it on the board quickly). Who can give me an example of this sound in a word? Come, I want five examples, quickly. Yes, zama is one. How many syllables does it have? Two, correct thank you, Legodi. Now Norma, please can you segment those syllables in zama into sounds? Yes, you can do it on your arm – Correct, the sounds are /z/a/m/a/.*
- *"Before we start learning a new letter sound today, I'm going to see how well you remember the letter sounds we've already learnt about this term. Remember, we want to be really good at this, so try to see and say it quickly. We'll revise for five minutes with See and Say, ne, so let's keep the pace brisk!" She sets the timer on her cellphone and then walks up and down the aisles flashing various letter cards, syllable cards and words in random order, at different learners. She nods her head and says "Correct" when the answer is right, and provides corrective feedback when it is wrong, asking the learner to say the letter sound again. After flashing two or three other cards at learners, she comes back to the learner who made a mistake and flashes the same letter/syllable/word card to see if s/he can answer correctly this time. She's enthusiastic, caring and supportive, she keeps a brisk pace, and makes sure that all the children are watching her cards and are engaged, each one hoping to get a turn before the timer goes off!*

Additional activities for application and transfer of phonics knowledge

Many activities for practising the various operations involved in syllable and phoneme awareness are described in Module 2 (Unit 3), such as identifying, matching, segmenting, deleting or substituting syllables or sounds. Remember, because these are phonological/phonemic awareness activities, they are done ***orally,*** and children learn to do these operations in their heads (just as they learn to add, subtract, multiply or divide in their heads in mental maths). These activities can easily be incorporated in a phonics lesson too, as needed, when revising old or introducing new sounds.

However, when teaching phonics, a shift is made to ***the code*** – the alphabet – where the main focus is on teaching learners how letters/graphemes map onto sounds/phonemes. Phonics based activities used for the transfer/application part of phonics can practise the same operations, but this is done with the focus on the alphabetic code. Several examples are suggested below.

Practising blending letters/graphemes in syllables to form words

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 African languages tend to be long and mostly morphologically complex and therefore pose a challenge for beginner readers. Breaking them down into syllables, as a word attack strategy, makes it easier to then decode the phonemes in each syllable and then blend the syllables to sound out the word. Learners learning through the medium of an African language generally have a better initial knowledge of syllables than of phonemes, but make sure they can identify phonemes within syllables.

For example, the teacher can make separate letter/grapheme cards (either by hand or by printing them) for all the letter sounds already taught (for example, a, e, i, l, m, b, f, th). She makes several copies of them and puts them all in an envelope/container, one container per group. Working in groups, learners then use the letter cards from the envelope and blend them to form words given by the teacher. For example, the learners lay out all the letter cards face up and the teacher says: *Make the word 'amafutha'. Say it slowly with its syllables (a….ma…fu…tha). Now, identify the sounds in the syllables and then find the letter cards to match those sounds. Start with the first syllable and its sound. What is it? Yes, /a/. What letter card to you need to start building the word? The learners look at the letter cards and select the correct ones, saying the word aloud slowly and stretching it out to hear the sounds within each syllable. As they build the word, the teacher walks from group to group checking that they are on task and giving feedback:*

a	m	a	f	u	th	a

Then the teacher asks them to read the word in chorus, pointing to each grapheme as it is read. She casts her eye about the groups to see that their fingers match the letter sounds they are reading, and then she asks one child to read the word on his/her own just to check for accuracy. Then she gives another word, and so on, until the children have built about five different words, e.g. amafu, ifa, imbali, ibutha, ifutha, ithumbu, ilembe.

Another variation of this exercise would be to put selected letter cards in an envelope and let the learners work in groups using the letter cards to build as many different words with the available cards as they possibly can in fiv e minutes. One member of each group is selected as scribe to write down the words on a piece of paper. After five minutes is up, a scribe comes to the chalkboard and writes down the words his/her group made, and the other groups check to see if they made the same words. If another group made other words, the scribe from the group adds those words to the list on the chalkboard. The teacher can then determine the group that has built most words and is therefore the winner.

Exercises such as these enable learners to transfer their newly acquired alphabetic skills in ways that are concrete, engaging and fun.

Practising syllable segmentation and blending

The teacher can make word cards as well as syllable cards that match each word card (as shown below). Include a few two syllable words and then increase the difficulty level to multisyllable words. Working with a group, the teacher lays out the words in a column on the left, while mixing all the syllable cards above them in a large group. The children sit in a row, facing the cards. She then gives each learner a turn to segment a word into its constituent syllables by 'rewriting' it on the right with the correct syllable cards. Afterwards, she asks another learner to check the syllables thus arranged to see if they are correct.

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**

Since blending is the reverse process of segmenting, the syllable cards can also be used to build words. The teacher can display all the syllable cards on one side of a mat and the word cards on the other side, all jumbled up randomly. The teacher then takes turns with each learner. The teacher says a word aloud. The learner must repeat the word aloud, break it up its constituent syllables orally, and while doing so, find the correct syllable cards to 'write' the word. Once this has been done, the child must then place the appropriate word card next to the sequence of syllables and read the word aloud.

/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**

Working in their groups, learners can also take out the syllables and then place them in sequence to form a word, and read each word aloud, pointing to the syllables as they read them.

Remember to teach the learners to put all the syllable and word cards into the appropriate container (which should be labelled correctly!). After each exercise, the pieces should be put back in the container/envelope for future use.

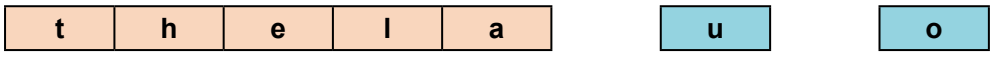
Note: Initially avoid using nouns from classes 1 and 3 with the shortened prefix um- and monosyllabic verbs containing the object morphemes for classes 1 and 1a (-m-). In these instances the /m/ is syllabic and you want the learners to first grasp the general pattern, namely that the end of a syllable 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**. Once 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:

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

Practising quick letter-sound recognition and blending through substitution exercises

To make sure that learners can distinguish between different letters/graphemes quickly and accurately to help them read words, the teacher can design an exercise based on letter substitution and blending.

The teacher makes several word cards with verb stems or words printed on cardboard. She also makes separate letter/grapheme cards, containing those letters that she wants the learners to practise to mastery level. Working with a group, the teacher lays out the word cards randomly on the left and the letter cards randomly on the right, so that all the leaners can see them. The teacher then asks: *Now Sinathemba, please find the word card **thela** and put it here. Thank you. Now read it, pointing to each letter as you do so. Well done. Now, Rosa, please find the letter card with /u/ on it. Good, now put it over the /e/ in the word **thela**. Now what word do you have? Read it, pointing to each letter. Correct, now it is **thula**.*



The teacher continues in this way getting the learners to exchange both vowels and consonants. In doing so, they are practising letter and word recognition through segmentation, substitution and blending in a concrete and engaging way.

lezi	>	lesi
lapha	>	lapho
labo	>	laba
isitsha	>	izitsha
umuntu	>	ubuntu
isondo	>	isonto
siyavula	>	siyabhula

Teachers can also include nonsense words and ask the learners to say when it is a nonsense word. They enjoy playing with letter sounds in this way and it increases their metalinguistic awareness of the phonology of their language. Learners can also practise these activities in pairs, helping each other to exchange letters/graphemes in words to make new words and practise reading the new word.

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

Substituting phonemes is required when forming the negative of a verb, for example, replacing the final /a/ in *bafunda* in *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.)

Sibon**a** ufezela	>	Asiboni ufezela. What happened to the /a/ of sibon**a**? (It changed to /**i**/.)
Ngidl**a** isinkwa	>	Angidl**i** isinkwa. What happened to the /a/ of ngidl**a**? (It changed to /**i**/.)
Bayacul**a**	>	Abacul**i**. What happened to the /a/ of bayacul**a**? (It changed to /**i**/.)

After the activity, the learner must be taught to put the word and letter cards back in the envelope/ container for future use.

The use of nonsense words

Nonsense words can be used in phonics activities as they are a good way to determine whether learners can sound out words correctly. (They are also a good way to gauge learners' knowledge of vocabulary!) To recap, nonsense words have the phonological and morphological structure

of real words in the language, but they are called nonsense or silly words because they have no meaning, e.g. *isithulu* or *umzafo*.

An example of creating nonsense words (or silly words or pseudo words) (*amagama abhedayo*) would be an instance where a learner replaces the first syllable of the verb stem -funda with kha, khu, khe, and kho. While the resultant form of the first operation results in a proper word stem (-khanda) the other resultant forms, namely *khunda, *khenda and *khonda are nonsense words.

The teacher can tell the class that they are now going to play with sounds to make words, but some will be real words and others nonsense words. They will be given a list of words. They must first read aloud each word in the list according to its syllables, and then read each word normally and then say which forms are real words and which are nonsense words. (Only a few words in the list for the activity will be real words with the rest being nonsense words.) The learners are divided into small groups and have to read the words to one another and mark the real words. After a while the teacher can then ask individual members of the groups to read the words and indicate the real words in the set and the nonsense words. If the focus is on teaching syllable structures, she may even ask them to divide the words in syllables by separating the syllables with slashes.

Monitoring phonics progress

It is important for the teacher to monitor learners' phonics development closely. This includes noting learners who

- do not know their letter sounds well
- struggle to blend letter sounds to form syllables or words
- struggle to segment words and syllables into constituent letter sounds
- struggle to write letters, syllables or words
- struggle to read words, sentences or short texts.

It is important to put interventions in place as soon as problems are identified. Some children may just need some revision (which can be done in class with the whole group), and some learners may be struggling and need additional attention in small groups or individually.

- **Testing letter-sound (grapheme-phoneme) knowledge** from a letter chart is a reliable way of assessing and monitoring Grade 1 learners' alphabetic knowledge and decoding development. By the end of Grade 1, learners should be able to sound out 40 letters correctly in a minute. This is the Grade 1 benchmark. (Refer again to Module 1 for specific benchmarks.)
- **Testing word reading fluency** in Grades 1 and 2. Learners should be tested individually by letting them read a list of isolated words aloud from a chart and recording the number of words read correctly in one minute. The chart should start with easy, shorter words and

also include longer, less common words. If children struggle to read words in isolation it indicates that they still have poor alphabetic knowledge and poor letter-sound blending and segmentation skills. (Refer again to Module 1 for specific benchmarks.)

The teacher must keep a record of each learner's progress in reading. In doing so, the teacher can see the progress a particular learner is making and can also easily identify learners who are not making the necessary progress and implement remedial interventions to assist struggling learners.

Also bear in mind that phonics is a constrained skill set. Once learners can match the phonemes and graphemes accurately and quickly there is no need to get stuck on phonics. Once the learners' performance in phonics is satisfactory, the focus must shift to other components of reading, in particular reading correctly, fluently and with the correct prosody and reading with understanding.

Conclusion

This unit focused on phonics and related issues. Given the importance of developing strong decoding skills in the early stages of reading instruction, the unit identified the principles underlying a good phonics programme for alphabetic writing systems, irrespective of the particular language in which reading is taught. Thereafter the features of a good phonics lesson were described, and examples were given of how this might be enacted in African languages such as isiZulu and Sesotho.

Self-assessment activities

These are 'quickie' assessment activities to check how well you have understood key concepts discussed in this unit and whether you are able to perceive the pedagogical implications of such concepts in the teaching of reading.

Note: The key to these self-assessment activities is given in the Appendix at the end of this module. If you score less than 6/8 (75%) for these questions you are advised to re-read the unit again to strengthen your content and pedagogic knowledge.

1. In each of the statements below provide **the appropriate missing word (or words). (5)**

   a) ……. is the method of teaching beginner readers the relationship between the sounds in the language and the graphemes that represent them in writing. (1)

   b) The ultimate goal of a good phonics programme is to get the learners to start reading words and connected text as soon as possible, which is why a …….. pace in phonics can be detrimental for learners in the long run. (1)

   c) A good phonics programme should be structured in such a way that the grapheme-phoneme relations of the target language are taught …….. and ……. . (2)

d) A good phonics programme will provide opportunities for learners to segment and blend letter sounds daily so that they can …… these skills to decoding new words when reading. (1)

2. Indicate which one of the following statements is **false**. **(1)**

a) Ideally, learners should blend letter sounds to form syllables and words or segment syllables and words into their constituent sounds immediately after a new sound has been introduced.

b) Teachers should have high expectations of their learners and encourage them to identify letter sounds accurately and quickly but at the same time teachers should not reprimand learners who make mistakes.

c) The teacher must give corrective feedback promptly to ensure that learners do not learn a wrong form or pattern.

d) Decodable texts are texts that learners can read for practice that contain only the sounds suitable for their grade level.

3. Indicate which of the following statements is **the correct one**. **(1)**

a) Pseudo words are words that do not conform to the structure of the language.

b) Consonant clusters (also called blends) comprise two or more graphemes.

c) In phonics teaching learners are taught to identify and manipulate the sounds of spoken language.

d) The syllable structure of the word *umzali* is /um/za/li/.

4. Consider the following scenario and then indicate which one of the options **is irrelevant to or an inaccurate reflection** of this scenario. (1)

Teacher Nosipho is revising letter-sounds in her phonics lesson before she teaches the learners a new sound. "Before I teach you a new letter sound today, I'm going to see how well you remember the letter sounds we've already learnt about this term. Remember, we want to be really good at this, so try to see and say it quickly. We'll revise for five minutes with See and Say, ne, so let's keep the pace brisk!" She sets the timer on her cellphone

and then walks up and down the aisles flashing various letter cards, syllable cards and words in random order, at different learners. When the answer is correct she nods and says "Correct". When the answer is wrong she provides corrective feedback, asking the learner to say the letter sound again. After flashing two or three other cards at learners, she comes back to the learner who made a mistake and flashes the same letter/syllable/ word card to see if s/he can answer correctly this time. She's enthusiastic, caring and supportive, she keeps a brisk pace, and makes sure that all the children are watching her cards and are engaged, each one hoping to get a turn before the timer goes off.

a) The teacher has high expectations of her learners and her words and actions in the class engage the learners and send signals to them that they are capable of learning letter sounds to high levels of mastery.

b) The reason why the teacher returns again to the learner who made a mistake after an interval is to check that the learner is retaining information in long term memory and not just repeating the correction the teacher gave.

c) By setting the timer and revising at a brisk pace the teacher is creating stress. Teachers should allow learners lots of time to recognise letter sounds.

d) By using letter cards, syllable cards and word cards in her revision activity the teacher is moving between parts and wholes, which helps her identify where learners may be having decoding difficulties.

Unit 5: Developing reading fluency

Introduction

This unit focuses on oral reading fluency, explains why it is important and describes how it can be assessed and how benchmarks can be used to track learner progress in reading.

What is oral reading fluency?

Reading fluency is the ability to read accurately, quickly and with appropriate expression or prosody so that the reading sounds like spoken language (Rasinski 2003). Not only are accuracy and reading rate important components of oral reading fluency (ORF), prosody or appropriate expression is also an essential component of ORF. 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 African languages). These characteristics play a crucial role in comprehending everyday oral language and are equally important for proper reading comprehension.

A beginner reader will read in a slow and jerky way but as decoding improves and becomes more accurate, oral fluency speeds up and reading sounds more like natural language. Teachers generally focus on oral reading fluency rather than silent reading fluency because it is much easier to assess oral reading fluency. By Grade 3 most learners shift from oral reading to silent reading.

Why is oral reading fluency important?

A considerable body of research has shown a strong relationship between oral reading fluency and reading comprehension for learners in primary grades. Oral reading fluency has been widely used to monitor learners' progress in reading in the early elementary grades due to its strong empirical relationship with reading comprehension (Fuchs, Fuchs, Hosp & Jenkins 2001; Ridel 2007).

To understand what they read, learners have to be able to read accurately and at an appropriate pace. This is because of the way that the human brain works. The more a learner struggles to read, the more the working memory is occupied with the task of decoding text rather than being available for reading comprehension. Research (e.g. Kuhn & Stahl 2003; Kuhn, Schwanenflugel, Morris, Morrow, Woo, Meisinger, Sevcik, Bradley & Stahl 2006; Young, Bowers & MacKinnon 1995) contends that quick word recognition and appropriate application of prosodic features to reading play an important role in facilitating comprehension. It is therefore important that learners should be able to read with fluency appropriate to their grade.

The ORF benchmarks that were developed for the various South African languages were derived from a strong empirical base involving thousands of learners from different African languages

(e.g. 16,000 learners for the Nguni languages, 14,000 learners for Sotho-related languages). Analyses of these data sets showed clearly that learners could only read with comprehension once they had achieved a certain fluency rate, and fluency rates only increased when learners achieved at least 95% accuracy in reading. There was little to no evidence of learners reading very slowly but reading with comprehension. Learners who had not achieved the Grade 2 ORF benchmark were learners who were reading inaccurately and slowly and they were in a non-comprehension zone.

Note that the ORF benchmarks for isiZulu and Sesotho are different due to the fact that isiZulu uses a conjunctive and Sesotho a disjunctive orthography. In the Nguni languages, written words are on average longer than in the Sotho languages, and research around the world shows that readers take longer to read long words than short words.

Table 4: ORF benchmarks for Grades 2 and 3

isiZulu	**Sesotho**
Grade 2 20 wcpm	Grade 2 40 wcpm
Grade 3 35wcpm	Grade 3 60 wcpm

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 & Chard 2005).

Developing oral reading fluency

If fluent reading is so important, the question naturally arises as to how teachers can develop their learners' reading fluency. Even though reading accurately and fast is important, this does not mean that teachers must try to get the learners to speed read! Instead, fluency develops with lots of reading practice. Creating ample reading opportunities is thus essential for developing reading fluency.

Opportunities for reading practice can be created in Group Guided Reading, when the teacher works with one ability group, the other groups can do group, paired reading or individual reading exercises where they focus on reading accurately and smoothly.

Another useful activity to increase reading fluency is rereading the same text, especially for learners who experience reading difficulties. The rereading can be done up to about four times, but it becomes counterproductive if done more than that. In a reread, the teacher asks the learner to read a passage. If the learner has difficulty reading some words, the teacher reminds the learner to use word attack strategies (such as segmenting the syllables and letters and then blending them). Then the teacher says: *Ok, Lerato, you have read all the words in that passage. Now, can you read it again, please. But this time, try to read the words more smoothly.*

Critical factors for selecting materials for rereading are set out in Table 5 below.

Table 5: Factors to consider for developing fluency through rereading

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 recognisable text.
Avoid texts with predictable texts based on pictures	The use of picture books with an illustration and a single (predictable) sentence on each page that depicts the picture (e.g. *This is a butterfly/This is a bird/This is a fish)*, leads to learners memorising the sentences by associating them with the pictures. Learners may thus mimic reading while they are actually remembering the sentences by association with the pictures. They thus recite the sentences instead of reading them. (This is often a problem in the whole language approach.)
Reread texts or change texts	Learners should practise both rereading texts and reading different texts. Some scholars (notably Hiebert 1999; Kamil, Mosenthal, Pearson & Barr 2000) are of the opinion that creating many opportunities to read a variety of texts rather than rereading the same text is more conducive to obtaining reading fluency. It is 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.

Teachers can model fluent reading during Read Alouds 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, using the voice to express different emotions, to create atmosphere and to represent different characters in the story.

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 word reading fluency and connected text reading fluency, connected text reading fluency typically predicts reading comprehension (Ehri &Wilce 1983; Jenkins, Fuchs, van den Broek, Espin & Deno 2003a; Stanovich 1980). The ability to read connected text fluently is one of the essential requirements for successful reading comprehension (Little, Hart, Quinn, Tucker-Drob, Taylor & Schatschneider 2017). 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 and comprehension skills (Kim, Wagner & Foster 2011).

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 gain meaning by combining the information in the text with what they already know (Piper, Zuilkowski, & Mugenda 2014; Samuels 2006). Reading comprehension is "the process of simultaneously extracting and constructing meaning through interaction and involvement with written language" (Snow 2002: xiii).

Learners generally show a high correlation between their respective abilities to read at the different levels, namely at the sub-lexical, word, and passage levels (Klauda & Guthrie 2008; Kim, Wagner & Foster 2011). In other words, learners who demonstrate strong reading comprehension skills are also able to:

a) recognise isolated words fast

b) recognise words in context and process phrases and sentences with relative ease

c) apply appropriate expression when reading narrative texts or information texts.

Developing silent reading fluency

The transition to silent reading only happens once learners have developed strong decoding skills. Although some approaches to reading encourage silent reading as early as in Grade 1, research has found that this is unrealistic as early or struggling readers do not make progress when left to their own devices. It is best for beginner readers to practise their reading orally, in groups, pairs or alone until they have become proficient decoders. 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, Javorsky, Murphy & Wilson 2009) and has the same underlying reading skill. However, the skills involved in oral reading are not merely transferrable to silent reading. 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 and De Jong (2014), studying Dutch Grade 4 readers, found that oral and silent reading performance is similar, based on the reading-related cognitive skills, phonemic awareness, **rapid naming** and **visual attention span**. Visual attention span, however, contributed significantly to silent reading in particular, while rapid naming did not correlate highly with silent reading.

Limitations of oral reading fluency

Despite the importance of oral reading fluency, in itself fluency is not sufficient for attaining comprehension (Paris, Carpenter, Paris & Hamilton 2005; Paris 2005). Reading comprehension is a complex cognitive skill that is affected by multiple skills (Cutting & Scarborough 2006; Katzir, Lesaux & Kim 2009; Keenan *et al*. 2008; Seidenberg 2017). Not reading fluently will certainly impede comprehension, but besides needing fluency, learners also need other skills to understand texts at a deeper level.

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) listening comprehension in the particular language, (4) understanding of grammar, (5) cognitive skills such as inferencing (6) understanding how texts work and different text genres (7) the quality of the reading instruction, and (8) the linguistic and socioeconomic situation at home. Some of these factors will be discussed in Module 4 on Reading Comprehension.

Also bear in mind that factors such as (1) the degree of transparency of the orthography, (2) word length, (3) morphological complexity of the language, (4) the learner's background knowledge, and (5) the learner's level of cognitive development also impact on reading comprehension in the early stages. Once learners have become skilled readers such factors are less likely to impact reading comprehension.

Studies on the lack of reading fluency

South Africa is not the only country 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 Grade 3 could not read a Grade 2 level passage.

In a study focused on two provinces of Kenya, Piper, Schroeder and Trudell (2016) analysed learner reading outcomes in four languages, 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 the study explored the implications of these relationships for Kenyan language policy. The learners were assessed in more than one language, and 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 Dholou or Gikuyu (their first language), their reading in English was still slow and 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 they did so very slowly, and they 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 in the African language was higher than English, but still poor, and they were not able to decode their first language effectively.

Even though the low scores of the research participants in both reading fluency and reading comprehension across all the languages makes it difficult to come to convincing conclusions, this study shows that English reading fluency on its own will not result in reading comprehension because learners need to achieve both a minimal fluency rate as well as language proficiency in English in order to comprehend English texts. Although the learners' reading comprehension was somewhat higher in the African languages, they were reading very slowly and this may account for the modest comprehension skills in their own languages.

The evidence also demonstrated that Kenya's national language policy of mother tongue as the medium of instruction in the early primary grades is consistently ignored in practice. The researchers argue 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 learner achievement, but only if teachers are well trained to teach literacy.

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 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. As already stated, 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, as discussed earlier. The short texts used for checking reading fluency should be at the appropriate grade level.

The only feasible way to test silent reading fluency is by asking them to read a text silently to themselves and then noting up to where they have read after 1 minute (i.e. working out how many words were read in a minute). The measure is not as reliable as oral reading fluency since it is not possible to know which of the words read were read correctly because they were read silently, so accuracy in silent reading is not taken into account. Another more costly, but highly accurate method is to use eye-tracking equipment but this is not really feasible in a school setting.

Transferring reading skills from one language to another

If a learner is a fluent and proficient reader in his/her home language, several reading skills can readily be transferred 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 alphabetic 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.

If learners become proficient decoders and read fluently in their home language, these skills are more readily transferred to another alphabetic orthography. Research in South Africa shows robust correlations between reading in two languages – readers who read well in the home language also tend to read well in EFAL, and learners who read poorly in home language will also be poor readers in EFAL. However, 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 first or subsequent language depends, *inter alia*, on the quality of teaching and the learner's knowledge of the target language, which includes knowing the letter sounds in the target language, phonological and morphological awareness, opportunities to develop oral fluency in the language, the vocabulary of the target language, and comprehension of its grammar.

Conclusion

Hearing a child read fluently, with good use of voice and appropriate pauses, brings joy to a teacher's heart for fluent reading is associated with skilled reading and comprehension abilities. Sadly, however, many teachers do not know much about fluency or how to teach or assess it, and very few learners in South Africa leave Foundation Phase as fluent readers at the end of Grade 3. Unit 5 focuses on fluency in reading, and describes the components of fluency (accuracy, speed and prosody), the role of fluency in reading and its strong relationship to reading comprehension. Ways of improving fluency in the classroom and assessing it are suggested, especially from Grade 2 onwards, and the transfer of reading skills from one language to another is also considered.

Self-assessment activities

These are 'quickie' assessment activities to check how well you have understood key concepts discussed in this unit and whether you are able to perceive the pedagogical implications of such concepts in the teaching of reading.

Note: The key to these self-assessment activities is given in the Appendix at the end of this module. If you score less than 6/8 (75%) for these questions you are advised to re-read the unit again to strengthen your content and pedagogic knowledge.

1. In each of the statements below provide **the appropriate missing word (or words). (6)**

   a) Oral reading fluency entails the ability to read a text ……. , ……. and with natural …….. as if you talking. (3)

   b) Teachers should be aware that learners will read quite slowly until their reading accuracy reaches ….. % or higher. (1)

   c) Oral reading fluency is important for reading because it is a prerequisite for ……. …….. in the lower grades. (1)

   d) Making readers read fast does not develop oral reading fluency. Instead, activities such as …….. help develop oral reading fluency. (1)

2. Indicate which one of the following statements is **false**. **(1)**

   a) Letting a learner read a text that is slightly above her reading ability is a good method of improving her oral reading fluency.

   b) Teachers should be aware that it is unlikely that learners will become effective silent readers before they can read aloud accurately and fluently.

   c) Prosody is important because pronouncing words in a particular way and using specific pauses between words influence the meaning of a sentence.

   d) While both word reading and the reading of connected text show strong correlations to reading comprehension, a passage-based ORF test consistently and reliably predicts how well children are likely to understand what they read.

3. Indicate which of the following statements is **the correct one**. **(1)**

a) Reading comprehension is not dependent on the ability of the learner to process phrases and sentences easily.

b) Reading comprehension also includes the ability to use background knowledge to make meaning of what is read.

c) Silent reading develops automatically if the beginner reader can decode words correctly.

d) Reading skills developed in the first language are not transferable to an additional and subsequent language.

Unit 6: Morphological awareness and reading

Preliminary reading

Module 1: *Description of linguistic concepts underlying teaching reading*

Take cognisance of the following concepts as described in Module 1:

The structure of words and sentences

Introduction

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

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, as shown in the table below.

Table 6: Basic types of morphemes

Roots (lexical morphemes)	A root is that part of a word that cannot be analysed any further into smaller meaningful parts and that carries the basic meaning of the word. These include noun roots, verb roots, pronoun roots, adjective roots, etc.
Stems	The term stem is best described as the root plus an affix or affixes. The term 'stem' is used to refer to that part of a word that has been shed of some morphemes during a morphological analysis, but that still contains a root plus one or more affixes. (The term 'stem' is often erroneously defined as a root plus suffixes. That definition assumes 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 inapt for these languages.)

Grammatical Morphemes	These are small sets of letters that perform a grammatical function within words and include prefixes, (Z umu-, S mo- of class 1) infixes (the causative morpheme -is- that is infixed into the verb after the verb root and before the categorial verb final morpheme) and suffixes (-ana diminutive morpheme that can be suffixed to a noun). Noun class prefixes, subject morphemes, object morphemes, aspectual morphemes, tense marking morphemes, negative morphemes, locative morphemes, diminutive and augmentative morphemes of the African languages are all examples of grammatical morphemes.

Morphemes are the smallest units of words that carry meaning. Unlike a word, which has a stand-alone meaning, grammatical morphemes do not have independent meaning. 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. Consider for instance the morphemes -nga- in *singahamba* and *uma engafika*… In the first example the morpheme -nga- is the potential aspectual morpheme indicating a possibility while in the second example the morpheme -nga- is the negative morpheme of the participial mood.

Some languages have a very **productive morphology**, that is, many morphemes in the language are actively used in not only existing words, but also in word-formation. For example, the applied morpheme -el- is inserted into a verb, after the verb root, to modify the meaning of the verb to have an applied meaning, a meaning of 'for…/on behalf of…'. This is evident in sentences such as, *Ngiphakela ubaba inyama* 'I dish up meat for father' or *Umama uthengela umntwana amaswidi* 'Mother is buying for the child sweets'. This knowledge will allow the speaker to generate a sentence such as, *Ngithumela umfowethu imali* 'I am sending for my brother money'.

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.

It is important for teachers who teach early reading in the African languages to have a good understanding of morphology in their languages as it informs and deepens their teaching.

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.' IsiZulu employs a single word (a verb) *basazofundisana* comprising seven morphemes (ba-sa-zo-fund-is-an-a) 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 class 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 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 the human class but plural.

The noun *umfula* comprises a noun class prefix um- (which marks the noun as belonging to class 3 and denoting singular). The plural form *imifula*, on the other hand, comprises the noun class prefix imi- (which denotes class 4 and 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 'we'. The verb also contains the object morpheme -zi-. This morpheme marks the object in the verb as being *izinkomo*, a noun in class 10. 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.

Subject and object morphemes in African languages

Consider the morpheme ba- in the word ***ba****yadlala* 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 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 *siya****ba****bona* 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. From the examples above it is clear 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. Note that no morpheme can ever appear between the object morpheme and the verb root.

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 wods and thus also of the written word and ultimately of the sentence. Berninger, Abbott, Billingsley and Nagy (2002) and Kruk and Bergman (2013), among others, conclude that morphological knowledge is critical to the development of reading fluency.

While morphology does not form part of decoding as such, it is important for language comprehension, vocabulary building and ultimately for reading comprehension. Introducing morphological awareness in Grade R and early Grade 1 may be confusing to the beginner reader rather than contributing to learning to read. Morphological awareness does, however, facilitate reading comprehension and assists the reader with word form prediction in certain contexts. This is particularly true due to the elaborate agreement system of the African languages.

Guidelines for practice

It is a good idea to rely on incidental learning of morphological structures of the language in the initial stages of reading. This can be done with Grade 1 or 2 learners by, for instance, letting learners form plural forms of nouns when given the singular forms or requesting them to change a simple present tense verb in a sentence so that the sentence denotes an event in the past, or in the future. The teacher may also give Grade 1 learners a simple sentence with first and second person pronouns and request them to supply the correct "link" (subject morpheme) in the verb for the second and ensuing forms, in which the subject morpheme is missing. Consider the completion exercise below, use the first sentence as an example to complete the 2nd, 3rd and 4th sentences.

Table 7: Simple 1st and 2nd person agreement exercise

Mina	ngii	-bona	imbali
Thina		-bona	imbali
Wena		-bona	imbali
Nina		-bona	imbali

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.

Table 8: 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)	-sebets- (verb root)		-e (negative verb final morpheme)

Note the correlation between the syllables and morphemes in the pre-root position of the verb in the table above. In the case of the morphemes /ha/, /ba/ and /sa/ the morpheme and syllabic boundaries correlate exactly.

Table 9: 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 learner's memory will facilitate easy recognition of these morphemes and support learning to read. (The same is true for the subject morphemes.)

Table 10: Syllabic and morphological analysis of the locative derived Sesotho noun sefateng

	sefateng ('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.

Table 11: 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 and 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.)

Table 12: Identifying incorrect subject morphemes

		Incorrect	**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 comprehension in that language.

Morphology and the word categories

Each word category has its own unique morphological structure. Focusing 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.

Table 13: 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.

Table 14: 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: a subject morpheme, a verb root and a verb categorial final 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 1st person plural as subject while the verb root is **-rek-** (with the meaning of 'buy') and the categorial 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**.)

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 1st person plural as subject while the verb root is **-theng-** (with the meaning of 'buy') and the verb categorical 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. The final 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 learners in Grade 3 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 that form part of the verb should go (orange). The learner is given a set of subject morphemes on little cards (orange) which she or he has to place in the correct position (in the orange slot). The learner then has to read each sentence and explain its meaning. (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.)

Table 15: Morpheme insertion exercises

Mina		khuluma	isiZulu.	u
Wena		gqoka	izingubo.	si
Thina		bhala	incwadi.	ni
Nina		vuka	ekuseni.	ngi
Mina		thanda	ukufunda.	u
Wena		phatha	isikhwama.	si
Thina		siza	uthisha.	ni
Nina		funda	izibalo.	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. In this exercise the learners have to insert 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.)

Table 16: Noun class subject morpheme insertion

UZodwa		hleka	kamnandi.	ba
Ogogo		thenga	ukudla.	I
Inkomo		dla	utshani.	U
Imithi		mila	kahle.	Zi
Izikhova		bamba	amagundane.	I
Isikhova		khala	ebusuku.	Zi
Umzali		sebenza	eGoli.	Ba
Abantwana		ya	ekhaya.	Si
Izinyoni		dla	ummbila.	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
2. identify the noun prefix of the subject noun and subject morpheme by underlining these morphemes in each case.

To increase morphological awareness and draw attention to word boundaries, a teacher can give a series of words written conjunctively (as in the green column in Table 17) and ask learners,

working in pairs, to read them and decide, by means of a slash /, where the word boundaries should go. The learners can then underline the noun prefix of the subject noun in each case and highlight the subject morpheme.

Table 17: Identifying word boundaries, noun prefixes and subject morphemes

Sentence (no spaces between words)	**Sentence (spaces between words)**	**Subject noun prefix and subject morpheme underlined**
Uthishauyakhuluma.	Uthisha uyakhuluma.	Uthisha uyakhuluma.
Abafanabadlalaibhola.	Abafana badlala ibhola.	Abafana badlala ibhola.
Izinjazidlainyama.	Izinja zidla inyama.	Izinja zidla inyama.
Isikolesivalanamhlanje.	Isikole sivala namhlanje.	Isikole sivala namhlanje.
Amadadaabhukudaedanyini.	Amadada abhukuda edanyini.	Amadada abhukuda edanyini.
Inkomoiwelaumfula.	Inkomo iwela umfula.	Inkomo iwela umfula.
Umntwanauyakhala.	Umntwana uyakhala.	Umntwana uyakhala.
Umuthiumilakahle.	Umuthi umila kahle.	Umuthi umila kahle
Ufuduluhambakancane.	Ufudu luhamba kancane.	Ufudu luhamba kancane.
Ihhashiligijimakakhulu.	Ihhashi ligijima kakhulu.	Ihhashi ligijima kakhulu.

Apart from honing 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 learners to the noun singular and plural formation rules in the language. This exercise will assist 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 also enhancing their reading skills. They simply insert the appropriate plural prefix in the plural prefix column (marked in blue below). 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.)

Table 18: Morpheme substitution

Singular prefix	Root		Plural prefix	Root
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
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, Rastle & Nation 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 automatises the reading process, which in turn frees up more short-term memory for reading comprehension rather than focusing on word decoding.

Conclusion

Since African languages are agglutinating languages with a rich and productive morphology, this unit looked at morphological issues that reading teachers need to be aware of when teaching reading in African languages. Exercises are suggested that can help raise learners' morphological awareness, which in turn can help them read more fluently and with comprehension.

Self-assessment activities

These are 'quickie' assessment activities to check how well you have understood key concepts discussed in this unit and whether you are able to perceive the pedagogical implications of such concepts in the teaching of reading.

Note: The key to these self-assessment activities is given in the Appendix at the end of this module. If you score less than 6/8 (75%) for these questions you are advised to re-read the unit again to strengthen your content and pedagogic knowledge.

1. In each of the statements below provide **the appropriate missing word (or words). (6)**

a) …….. is that branch of linguistic study that focuses on how words are made up of smaller meaningful parts. (1)

b) A …… is that part of a word that cannot be further divided into smaller meaningful parts and that carry the lexical/basic meaning of a word. (1)

c) Morphemes such as the subject morpheme and the causative morpheme -is- used in the verb in isiZulu and Sesotho are called …….. morphemes. (1)

d) Languages such as the African languages that have a productive morphology are called …….. languages. (1)

e) The morphemes umu-/aba- of isiZulu and mo- and ba- of Sesotho are called…… (1)

f) The position of the object morpheme in the verb is …… the verb root. (1)

2. Indicate which one of the following statements is **false**. **(1)**

a) Morphology is important for reading as a meaning-making mechanism.

b) Morphemes either have meaning or they denote a grammatical function.

c) A particular morpheme may be a marker of more than one grammatical function.

d) A particular morpheme can appear in different positions in a word.

3. Indicate which of the following statements is **the correct one**. **(1)**

a) Nouns and pronouns have the same morphemes.

b) In order to form a plural from a singular noun you have to prefix the plural noun class prefix to the singular form.

c) The final morpheme -a in the verb *Siyadl**a*** (isiZulu) / *Re a j**a*** (Sesotho) marks the mood, tense and polarity (positive and negative) of that verb.

d) In the case of the verbal extensions the morpheme boundaries correlate to the syllable boundaries.

Unit 7: The stages of reading

Preliminary reading

MODULE 1: *Description of linguistic concepts underlying teaching reading. Read the section on the Simple View of Reading in Module 1 and ensure that you understand the basic assumptions underlying this view as described by Tunmer and Gough (1986).*

Introduction

Having focused on the way in which decoding develops, we now draw your attention to the bigger picture and consider the stages that learners go through in becoming readers, and how the various skills involved in decoding emerge and develop across the stages. 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 can help 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) or the skills that they have acquired at that stage.

Different reading stage models have been distinguished by different scholars. Most of these stages overlap and different terms may be used or different stages identified. One of the best-known models of reading stages is that of Chall (1983) (see the summary in Pretorius & Murray 2019b: 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 covers the teaching of reading in the early stages, at Foundation and Intermediate levels. For this reason, we discuss this model.

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 but can overlap or merge from one stage to another. The phases of a child's process of learning 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 do not yet have a proper understanding of the alphabetic 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 recognise brand names such as *KFC, Wimpy, SPAR, Coke and Pick' n Pay* and may perhaps recognise her or his 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. Proud parents and relatives often mistake this form of word recognition as reading, but it is not the phonological decoding of words. The child recognises such words the same way they recognise pictures or faces, often relying on contextual cues such as colours, font type or accompanying pictures, logos 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/capital letters, out of the brand context in which it usually occurs, confirms that the child 'reads' the word as a picture. The child is certainly learning 'to read' the environment but this is not alphabetic reading.

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

The second reading stage occurs when the child starts decoding words by dividing them into phonemes and matches 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, with each speech sound represented by 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.

As already discussed, phonological awareness involves identifying and manipulating the speech sounds in spoken language and 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, Szczerbinski, Fox-Boyer & Stackhouse 2016; Furnes & Samuelson 2011; Spencer, Spencer, Goldstein & Schneider 2013).

At the beginning of reading instruction, learners must be introduced to the alphabetic principle. Learners must be made aware that letters represent speech sounds 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 ideally 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 by now developed an ever-growing 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 than the word length and complexity of the graphemes. The skilled reader starts to recognise and read words very fast. Reading still slows down when the reader encounters an unknown or less familiar word or if the topic is unfamiliar and complex.

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 use 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 lessons from Frith's three-stage model

There are valuable lessons we can take from this three-stage model. 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 (2009:227) neuroscientific research findings compel him to conclude that,

> *(p)erformance 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 emphasises, 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 easily turn them into speech sounds. All other essential aspects of the literate mind – the mastery of spelling, the nuances of meaning, and the pleasures of literature – depend on this crucial step (2009:219).*

Considerable research converges on the fact that grapheme-phoneme conversion transforms the child's brain as new pathways form that link the visual brain with the language 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, Maassen, Lyytinen and Zwarts (2017: 1618 in Sprenger-Charolles & Colé, 2003) 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 [consciously] rely on phonics when coming across the same word again; reading has become a fast and highly efficient word recognition process.*

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: 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 is made and where pronunciation takes place. The more the learner reads, the faster he or she decodes, and this 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 skilled readers will still read unknown words by decoding them using their phonological skills.

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

The Simple View of Reading

As discussed in Module 1, although reading is a very complex process, the basic processes by which it is driven are summarised as the Simple View of Reading (SvR) by Hoover and Gough, namely that **reading comprehension** can be described as the product of **decoding** and **linguistic comprehension** (also referred to as language proficiency): **RC = D x LC**. Reading comprehension is described as the product of decoding and language comprehension because if either decoding or language comprehension is zero, reading comprehension is also zero. The word 'simple' in the SvR does not mean simplistic but refers instead to the core components in reading.

Decoding entails the accurate and quick reading of words based on knowledge of grapheme-phoneme correspondences. Linguistic comprehension comprises the understanding of language, including word meanings, the interpretation of sentences and the ability to interpret discourse. Both language and decoding are needed for reading comprehension.

During the initial stages of learning to read the emphasis is much more on decoding since learners need to master the written code. Initial reading amounts to associating a particular grapheme with a specific sound. During this early phase of reading development, success in reading is determined mainly by the learner's decoding skills. Even if learners have very strong language skills, they will not be able to read if they cannot decode properly. Once learners can decode well, linguistic comprehension now becomes a stronger predictor of reading comprehension (Fuchs & Vaughn 2012; Garcia & 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 probably 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 proficiency

Because reading is so critical for young learners, it is important to ensure that they reach the desired level of decoding skill and that they have adequate language proficiency in the language

in which they are learning to read.

In the early years language proficiency is normally tested with listening comprehension tasks and vocabulary tests as these are good indicators of language development.

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 does not properly listen to the text being read then she has problems with listening comprehension, or if she lacks the vocabulary or the language ability to reason verbally it means that that learner's oral linguistic abilities are inadequate, all of which will have a detrimental influence on the child's ability to develop reading comprehension.

An interesting exercise to hone or assess language comprehension is to read an information text to learners that describes a picture. The text is read to learners while they look at the picture. The text may differ from the picture in some respects. They then have to compare the detail in the picture to what is read to them. They have to immediately indicate where the text differs from what is depicted in the picture.

To recap, in Grade 1, decoding can be tested by assessing the child's letter-sound knowledge. The child must be able to identify letters shown on a letter chart quickly and accurately by indicating what sound the particular letter represents. Grade 1 learners' decoding ability may be assessed by determining whether they can read words and pseudo-words (or nonsense words) in isolation. The latter is a good way of determining whether the child can read phonetically.

In Grade 2 and 3 children's decoding abilities are measured by their Oral Reading Fluency (ORF). Because ORF is strongly related to reading comprehension, it is important to assess ORF throughout Foundation Phase to ensure that the learners are making the desired progress. Children's score on ORF will indicate if they can read with comprehension or not. If a child cannot read accurately and at a grade-relevant pace, that child will fail to read with comprehension.

The latest benchmark and threshold levels as determined for the different levels at Foundation Phase are given in the unit that focuses on oral reading fluency.

To become skilled readers, learners must strengthen both their decoding and language proficiency skills. This process is also illustrated very aptly by Scarborough's reading rope image presented below. The parts in red indicate language proficiency (referred to as language comprehension) while the parts in blue represent decoding skills.

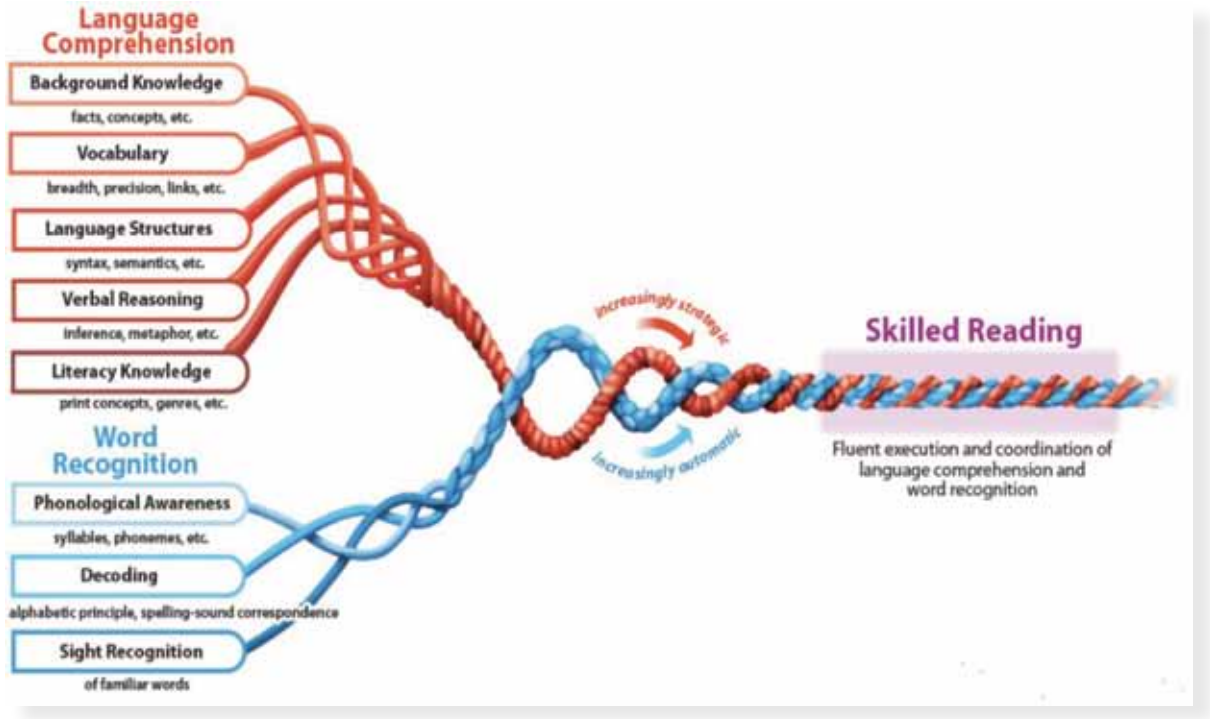


Figure 4: Reading Rope (Scarborough 2001)

Conclusion to module

Successful reading teachers are those who have content knowledge of the different components of reading, the various roles they play in reading, and how to teach, develop and assess the skills associated with these components. This module focuses on the decoding component of reading and unpacks the many different decoding skills and knowledge that children need to become successful readers who can read accurately, fluently and with comprehension. These skills include phonological and phonemic awareness, phonics knowledge as reflected in alphabetic knowledge, grapheme-phoneme mapping and blending and segmentation skills, oral reading fluency (and morphological awareness). In addition, the features of good phonics programmes and lessons were discussed, and the three stages of reading according to Firth's model described to situate decoding skills in the larger picture of reading development.

Self-assessment activities

These are 'quickie' assessment activities to check how well you have understood key concepts discussed in this unit and whether you are able to perceive the pedagogical implications of such concepts in the teaching of reading.

Note: The key to these self-assessment activities is given in the Appendix at the end of this module. If you score less than 6/8 (75%) for these questions you are advised to re-read the unit again to strengthen your content and pedagogic knowledge.

1. In each of the statements below provide **the appropriate missing word (or words). (6)**

   a) When a child has mastered the alphabet and starts recognising words fast and accurately, they are in the stage of reading distinguished by Frith as the ……. stage. (1)

   b) The reading stage where the child discovers that the speech sounds are represented by graphemes is called the …… stage. (1)

   c) If a preschool child sees this cereal box while grocery shopping with his mother and says "*Coco Pops!",* but cannot read the same words when they are written on plain paper with the accompanying context, then he is probably in the stage of reading that Firth calls the …… stage. (1)

   d) A take-away message from Frith's stages of reading and from research done by reading scholars all over the world, is that ……. and …… are essential components for beginner readers. (2)

   e) Although words seem to be read holistically in the orthographic stage, neuroscientific research indicates that both phonological and lexical processing happens concurrently in what Dehaene (2012) calls ……. (1)

2. Indicate which one of the following statements is **false**. **(1)**

   a) There is overwhelming evidence that a child with strong syllable awareness performs better in oral language skills and in reading when she learns to read.

   b) The Simple View of Reading and the Reading Rope model are basically making the same claim (RC = D x LC), although they do so in different ways.

   c) In the preschool years, the ability of some children to read whole words does not develop through the phonological route of reading.

   d) Learning grapheme-phoneme relationships transforms the child's brain to form new neural pathways.

3. Indicate which of the following statements is **the correct one**. **(1)**

a) If a child can decode fluently then a teacher can be sure that the child will be able to comprehend well, even if the child's language comprehension is poor.

b) Requiring beginner readers to read pseudo words does not reliably assess their decoding ability.

c) Reading is a complex process, which is why children's oral reading fluency score is not a good predictor of their reading comprehension.

d) In the early years, children's language proficiency is generally tested through listening comprehension tasks and vocabulary tests.

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Appendix A

Key to self-assessment activities

The correct responses to the self-assessment exercises are indicated below.

NB: If you score less than 6/8 (75%) for these questions you are advised to re-read the unit again to strengthen your content and pedagogic knowledge.

Key for Unit 1

1a	**phonological awareness**	(1)
1b	**phonics**	(1)
1c	**conjunctive** … **disjunctive**	(2)
1d	**encoding** … **decoding**	(2)
2**d**	is **false**.	(1)
3**a**	is the **correct one**	(1)

Key for Unit 2

1a	**syllables**, …. **phonemes** and …. **prosody**	(3)
1b	**repetition** and …. **alliteration/linking**	(2)
1c	**Are you working here** … **Is he/she working here?**	(2)
2**c**	is **false**.	(1)
3**b**	is **the correct one**.	(1)

Key for Unit 3

1a	**Roman** (or **Latin**)	(1)
1b	**opaque** … **transparent**	(2)
1c	**letter-names** …… **sounds**	(2)
1d	**37** (Sesotho) **46** (isiZulu)	(1)
2**d**	is **false**.	(1)
3**a**	is the **correct one**.	(1)

Key for Unit 4

1a	**phonics**	(1)

1b	**slow** pace	(1)
1c	**systematically** and **explicitly**	(2)
1d	**transfer/apply**	(1)
2**d**	is **false**.	(1)
3**b**	is the **correct one**.	(1)
4**c**	is **inaccurate**	(1)

Key for Unit 5

1a	**accurately** … **fluently** … **prosody**	(3)
1b	**95%**	(1)
1c	**reading comprehension**	(1)
1d	daily practice/ regular reading/ reading often	(1)
2a	is **false**.	(1)
3b	is the **correct one**.	(1)

Key for Unit 6

1a	**Morphology**	(1)
1b	**morpheme**	(1)
1c	**grammatical** morphemes	(1)
1d	**agglutinating**	(1)
1e	… **grammatical**	(1)
1f	… **directly before**	(1)
2**d**	is **false**.	(1)
3**c**	is the **correct one**.	(1)

Key for Unit 7

1a	**orthographic pathway**	(1)
1b	**phonological reading pathway**	(1)
1c	**pictorial stage**	(1)
1d	… **phonological awareness** … and … **phonics**	(2)
1e	**parallel decoding**	(1)
2**a**	is **false**.	(1)
3**d**	is the **correct one**.	(1)

Examples of summative questions requiring longer, more detailed responses

The questions given here serve as *examples* of summative assessment questions that are typically given in formal written assignments or examinations.

These are longer essay type questions that require students to demonstrate their content knowledge of reading and its application to classroom instruction in ways that are **clear** and **systematically** presented.

The mark allocation for questions provides a *rough* guide of how long your answer needs to be in relation to the total marks allocated to the examination paper. A question of 10 marks would require at least 1-1½ pages, while a 20-mark question requires a more detailed and extensive exposition of about 2-3 pages. When in doubt, rather write more than less. Remember, your response to a question is a display of your knowledge, so short answers suggest superficial and inadequate knowledge.

A rubric has been provided at the end to give you an idea of the different aspects of an essay that are taken into consideration, e.g. planning and logic; content, argumentation and examples; use of sources; language usage; technical finishing.

Note: When questions require examples to be provided, it is important for students to give their own, original examples and not simply copy examples from the module. Examples demonstrate whether students understand the content. Students who copy examples from the module will not be given credit for them; only original examples will be accepted.

Question 1

a. Explain what decoding in reading is and what the foundational knowledge and skills are that you, as a teacher, must teach these skills to enable the learner to decode. (12)

b. When teaching synthetic phonics there are two basic principles that you need to bear in mind. Name these two principles and explain how you would teach synthetic phonics to Grade 1 learners. (6)

c. Explain how you would assess your learners towards the end of Grade 1 to determine their progress towards becoming accomplished readers. In your answer, also refer to the benchmarks established for the African languages. (4)

d. Writing is the reverse process of reading. When and how will you teach writing to ensure optimal benefits to your Grade 1 learners? (3)

(25)

Question 2

a. Referring to two different types of phonological awareness exercises, explain how you would teach Grade 1 learners phonemic awareness. (4)

b. Phonological awareness encompasses three types of sound awareness. Name them and indicate their relevance for teaching reading in your target language supplying examples. (6)

c. What are the similarities and differences between phonological awareness and phonics? (6)

d. Explain how you would make Grade 1 or 2 learners aware of punctuation and the suprasegmental qualities of vowels to differentiate between certain words that are similar in written forms except for their suprasegmental qualities and alert them to the distinction between statement and a question in written isiZulu / Sesotho. (5)

e. Explain the difference between the disjunctive and conjunctive orthographies with reference to isiZulu and Sesotho. (4)

(25)

Question 3

a. Explain the six principles of a good phonics programme and why they are important. (12)

b. Explain why morphology is important for reading and vocabulary building and then indicate how you can teach basic morphological awareness incidentally in Grade 1 and the beginning of Grade 2, supplying examples. (6)

c. Explain what activities you would implement to improve the reading fluency of learners in Grade 3 and how you would monitor their progress. (7)

(25)

Question 4

a. Changing a Sesotho or isiZulu verb from a positive to a negative polarity, entails affecting certain morphological changes to the verb. Explain the morphological processes involved in changing the Sesotho verb Batho ba a qoqa to Batho ha ba qoqe or the isiZulu verb Abantu bayaxoxa to Abantu abaxoxi. (2)

b. Both Gough and Tunmer's SVR and Scarborough's Reading Rope mention the importance of decoding and language comprehension as the foundational principles for reading. Briefly describe each model and explain what they have in common. (10)

c. Describe how you would assess a learner's competence in decoding at Grade 1 and Grade 2 level. (6)

d. Frith describes the first stage of reading as the pictorial stage. Explain why it is said that at this stage children are not really reading. (2)

e. Imagine that you teach Grade 2 learners and that you have a friend who is surprised when she hears that you are trying to improve their reading fluency. She says: *But my friend, they are only in Grade 2 – it's OK for them to read slowly!* Explain what arguments (and research findings) you would put forward to convince her that oral reading fluency is important for reading comprehension, even in Grade 2? (5)

(25)

Key to marking summative assessments

Some guidance is given for Questions 1 and 2.

Question 1

a. Decoding is the process of converting written language to spoken language to understand the message behind the words. -2-

b. The foundational knowledge and skills are: oral language proficiency, phonological awareness, alphabetic knowledge, word identification, phonics, and oral reading fluency. Indicate how these skills should be taught. -10- (12)
Synthetic phonics should be taught systematically and explicitly. -2-
Learners must be taught the phoneme-grapheme relations of the language and how to blend letter sounds so that they can read words containing these letter sounds. When learners have to read words with sounds that they have not been taught yet they start guessing and that quickly becomes a habit. … -2-
The phoneme-grapheme relations must be taught in a particular order. That order is determined by the frequency of occurrence in the language and complexity of the grapheme. … -2- (6)

c. At the end of Grade 1 a learner's progress in reading is assessed in terms of the number of graphemes they are able to sound out correctly per minute. A learner must be able

to indicate which sound each grapheme represents from a chart of graphemes that are randomly sequenced from left to right. A learner learning to read in an African language must sound out at least 40 graphemes correctly from a list in 1 minute. -2-

The benchmark for Grade 1 is based on the number of graphemes that a learner can sound out correctly in one minute. Learners should sound out at least 40 graphemes correctly per minute (lcpm). The reason for this benchmark was because research findings showed that children who performed below 40 lcpm did not have adequate alphabetic knowledge and could not read words -2- (4)

d. Writing of sounds and words (handwriting) should be taught immediately after Grade 1 learners have been taught letter sound and how to blend them to read words as writing reinforces reading. Learners must master fine muscle coordination in order to write the shape of the letters correctly. They can also say the sound of the letter as they learn to write it. They can write words that they have been reading, and they can also write short sentences that are meaningful to them, applying their newly acquired alphabetic and spelling knowledge. If words that used during phonics lessons are written, that also strengthen the learners' exposure to such words. … -3- (3)

(25)

Question 2

a. Select any two phonemic awareness exercises and discuss them. Use your own examples where possible. -2 x 2- (4)

b. Refer to figure 2 in the module in preparation for answering this question. Syllable awareness – relevance & example -2- phoneme awareness – relevance & example -2- prosody awareness -relevance & example -2- (6)

c. Refer to Figure 3 and the discussion in the Module in preparation for answering this question (6)

d. Describe the difference tone on the vowel makes to the meaning of a word – (e.g. subject morpheme of 2nd p singular and 3rd person singular) -2- Describe the difference in length of the vowel makes on word recognition – (e.g. the present tense and remote past tense in is Explain how punctuation can be used to signal tone in oral speech to distinguish between a statement or question. A question sentence will have a question mark at the end while the question word **na** may be used optionally in both Sesotho and isiZulu. -1- (5)

e. Sesotho uses the disjunctive writing system. Words are shorter because certain morphemes are written as words, notably the pre-root morphemes in verbs.
Examples. -2-
IsiZulu uses the conjunctive writing system. Words are generally longer because in certain cases word groups are written as single words.
Examples. -2- (4)

(25)

Appendix B: IsiZulu
IsiZulu phonemes, complex graphemes (digraphs, trigraphs and consonant clusters) and syllables

This list of the graphemes representing phonemes in the table below is divided into four sections, namely (1) vowel phonemes, (2) consonant phonemes represented by a single letter, (3) digraphs: phonemes represented by two letters and (4) trigraphs: phonemes represented by three letters in the orthography. There are 46 phonemes represented by particular graphemes in total.

Vowel phonemes	Consonant phonemes		
	Single letter	Digraphs	Trigraphs
a: Amandla	b: -bona, {ɓ}: -baba	bh: ibhala	
e: endle	c: icici	ch: -chaza	
i: into	d: idada	dl: -dlala	
o: ogogo	f: ifa		
u: uju	g: ugogo	gc: -gcina, gq: -gqoka, gx: gxoba	
	h: -hamba	hh: ihholo, hl: ihlathi	
	j: ijazi		
	k: -kitaza	kh: ukhulu, kl: -kleza	
	l: lapha		
	m: mina	{mh}: mina!	
	n: inunu	nh: -nhinhiza, ng: ngoba, ny: inyama	
	p: ipipi	ph: -phinda	
	q: iqanda	qh: -qhela	
	r: irayisi		
	s: isisu	sh: ishoba	
	t: umtapo	th: ithanga, ts: -tsatsaza	tsh: itshe
	v: ivovo		
	w: wena		
	x: ixoxo	xh: -xhuma	
	y: yena		
	z: zona		
5	**21 (22)**	**19 (20)**	**1**
TOTAL: 46			

* Even though the two phonemes in curly brackets {6} and {mh} are phonemes, they are not distinguished as separate graphemes in the orthography. (There are no separate graphemes that correlate with these phonemes.) These two phonemes should therefore be omitted for the purposes of teaching phonics. The implosive /b/ sound occurs in a word such as *ulamula uyababa*, while the sound /mh/ occurs in the word *mina* (pronounced as [m^h]) in the example *Mina, nansi impahla yakho*. (Since these phonemes are not distinguished in the orthography, they will have to be explicitly taught in spelling, as part of the phonics programme.)

IsiZulu consonant clusters

The consonant clusters are often referred to as consonant blends. We can subdivide the consonant clusters into groups according to the number of letters and phonemes that make up the cluster. In this way we will distinguish between consonant clusters comprising two letters with each letter being a separate phoneme, three-letter consonant clusters, etc.

Two-letter consonant clusters comprising two separate one-letter phonemes		
CONSONANT CLUSTER	**CONSTITUTING PHONEMES**	**EXAMPLE WORD**
Cw	c+w	-cwila
Dw	d+w	idwala
Fw	f+w	efwini/efini
gw	g+w	ugwayi/igwala
hw	h+w	-hwaya
jw	j+w	-jwayela
kw	k+w	ukwindla
lw	l+w	ulwandle
mb	m+b	imbuzi
mc	m+c	umcibisholo
md	m+d	umdokwe/ngiyamdonsa
mf	m+f	imfene
mg	m+g	umgodi
mj	m+j	umjovo
mk	m+k	umkami
ml	m+l	umlomo
mm	m+m	ummbila
mn	m+n	umnumzane
mp	m+p	impongo
mq	m+q	umqondo
ms	m+s	umsele

mt	m+t	umtapi/umtata
mv	m+v	imvu
mw	m+w	umwamba/umwohlo
mx	m+x	umxazulo/umxabo
my	m+y	umyeni
mz	m+z	umzimba
nc	n+c	-ncenga
nd	n+d	indoda
nj	n+j	inja
nk	n+k	inkomo
nq	n+q	nqo, isinqe
ns	n+s	insangu/insumansumane
nt	n+t	intaba
nw	n+w	izinwele, -nwaya,
nx	n+x	nxa
nz	n+z	inzamo
qw	q+w	-qwanda
sw	s+w	-swela
tw	t+w	isitwayi
vw	v+w	emvwini / emvini
xw	x+w	-xwayisa
yw	y+w	ushaywa
zw	z+w	-zwa
Subtotal: 44		

Three-letter consonant clusters/blends comprising three separate phonemes or a digraph plus a one-letter phoneme		
BLEND	**CONSTITUTING PHONEMES**	**EXAMPLE WORD**
chw	ch+w	-chwensa
dlw	dl+w	-dlwangula
gcw	gc+w	-gcwala
gqw	gq+w	-gqwabaza
gxw	gx+w	-gxwala
hlw	hl+w	-hlwitha
khw	kh+w	-khwela
klw	kl+w	-klwebha
mbh	m+bh	umbhede
mch	m+ch	umchazimthetho
mdl	m+dl	umdlali
mgq	m+gq	umgqomo
mgw	m+g+w	umgwaqo
mhl	m+hl	mhla
mkh	m+kh	umkhulu
mkl	m+kl	umklezo, umklayo,
mnd	m+n+d	umndeni
mng	m+ng	umngane
mnt	m+n+t	umntakwethu
mny	m+ny	umnyango
mph	m+ph	umphini
mqh	m+qh	umqhele, umqhakazo
mqw	m+q+w	umqwebu
msh	m+sh	umshudo
mth	m+th	umthombo
mtw	m+t+w	mtwanyeze
mvw	m+v+w	emvwini
mxh	m+xh	umxhumanisi, umxhapho,
ncw	n+c+w	-ncweba, incwadi
ndl	n+dl	indlu
ndw	n+d+w	indwangu
ngc	n+gc	-ngcola

ngq	n+gq	ingqulwane
ngw	n+g+w	ingwavuma
ngx	n+gx	ingxumba
nhl	n+hl	inhlanzi
nkl	n+kl	inklovunklovu
nkw	n+k+w	inkwindla
njw	n+j+w	injwayelo
nqw	n+q+w	-nqwaza
nsw	n+s+w	inswempe
ntw	n+t+w	intwala
nyw	ny+w	bathunywe
nzw	n+z+w	inzwece
qhw	qh+w	-qhweba, qhwa
shw	sh+w	uhlushwa
thw	th+w	ukuthwala
tsw	ts+w	tswi, tswininiza
xhw	xh+w	isixhwala
Subtotal: 49		

Four-letter consonant clusters comprising four separate one-letter phonemes, a digraph plus two separate one-letter phonemes or a trigraph plus a one-letter phoneme		
BLEND	**CONSTITUTING PHONEMES**	**EXAMPLE WORD**
mchw	m+ch+w	umchwayo
mdlw	m+dl+w	mdlwambise esizibeni
mgcw	m+gc+w	mgcwalisele
mgqw	m+gq+w	umgqwashu
mgxw	m+gx+w	umgxwala
mkhw	m+kh+w	umkhwenyana
mklw	m+kl+w	mklwibize ngoswazi
mngx	m+n+gx	mngxesezele
mntw	m+n+t+w	umntwana
mqhw	m+qh+w	umqhwebi/mqhwabaze
mxhw	m+xh+w	umxhwele
ndlw	n+dl+w	indlwana
ngcw	n+gc+w	abangcwabi /ingcwele

ngqw	n+gq+w	ingqwababa
ngxw	n+gx+w	ingxwele
nhlw	n+hl+w	inhlwele/ inhlwathi
nklw	n+kl+w	inklwazo
ntsh	n+tsh	intshebe
ntsw	n+ts+w	intswempe
tshw	tsh+w	utshwala
Subtotal: 20		

Five-letter consonant clusters comprising a digraph plus three one-letter phonemes or a trigraph plus two one-letter phonemes		
BLEND	**CONSTITUTING PHONEMES**	**EXAMPLE WORD**
mngcw	m+n+gc+w	umngcwabi
mngqw	m+n+gq+w	mngqwambe ngomuthi
ntshw	n+tsh+w	intshwamu, intshwaqa
Subtotal: 3		
GRAND TOTAL = 116		

IsiZulu syllables

As indicated in this module, the African languages have an open syllabic structure. This means that a syllable generally ends in a vowel. Consider for instance the syllable structure of the words listed below. However, isiZulu syllables may differ in length and complexity. A syllable may comprise (1) a vowel only, (2) the syllabic /m/, (3) a consonant plus a vowel, (4) two consonants plus a vowel, (5) three consonants plus a vowel, (6) four consonants plus a vowel or (7) five consonants plus a vowel as is evident in the examples below.

The phonological structure /VV/ (vowel + vowel) 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 paranormal 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 [ɾ:]) and mprr 'for the sound a horse makes – neighing' (with the r sound written phonetically as [ʁʁ]). These ideophones do not only contain a reduplicated r-sound, the combination of this sound with the preceding consonant(s) is also paranormal. Because of the relatively low occurrence of these paranormal sounds, they are not included in this discussion.)

Single vowel 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/

1. Single consonant syllable /m/

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'.

There are a total of approximately 396 different syllables in isiZulu

1. Syllables comprising a single vowel (5)

a	e	i	o	u
a: /a/ba/ba/la/	**e:** /e/kha/ya/	**i:** /i/ja/ji/	**o:** /o/ba/ba/	**u:** /u/Tho/ko/
a: /a/ba/da/la/	**e:** /e/fe/	**i:** /i/sho/	**o:** /o/go/go/	**u:** /u/m/tho/mbo/
a: /a/ce/ba/	**e:** /e/ga/da/	**i:** /i/je/ze/	**o:** /o/ku/ma/	**u:** /u/me/nzi/
a: /a/de/la/	**e:** /e/m/zi/ni/	**i:** /i/jo/la/	**o:** /o/ma/lu/me/	**u:** /u/ni/ka/
a: /a/fa/ka/	**e:** /e/hla/la/	**i:** /i/ju/da/	**o:** /o/ki/mi/	**u:** /u/phi/la/
a: /a/ga/na/	**e:** /e/hlo/la/	**i:** /i/ju/qa/	**o:** /o/kho/kho/	**u:** /u/bu/za/
a: /a/ha/ya/	**e:** /e/nhle/	**i:** /i/jwa/bu/	**o:** /o/kwa/mi/	**u:** /u/su/ka/
a: /a/ja/ma/	**e:** /e/hwa/ya/	**i:** /i/njo/ngo/	**o:** /o/kwe/thu/	**u:** /u/tsha/ni/
a: /a/ka/la/	**e:** /e/hli/ki/hla/	**i:** /i/ju/ba/	**o:** /o/Nku/na/	**u:** /u/ve/la/
1	1	1	1	1
TOTAL = 5				

2. Syllables comprising a single consonant /m/ (1)

m
m: /u/m/fa/zi/, /u/m/fu/la/
m: /m/sha/ye/, /si/ya/m/bo/na/
TOTAL = 1

3. Syllables comprising 2 letters - 1 consonant plus a vowel (105)

b..	c..	d..	f..	g..	h..
ba: -/ba/mba/	ca: -/ca/ba/nga/	da: ~/da/la/	fa: -/fa/ka/	ga: -/ga/da/	ha: -/ha/mba/
be: -/be/tha/	ce: -/ce/la/	de: -/de/da/	fe: -/fe/za/	ge: /i/ge/ja/	he: -/he/sha/
bi: -/bi/nda/	ci: -/ci/nga/	di: -/di/da/	fi: -/fi/ka/	gi: -/gi/nqa/	hi: -/hi/da/
bo: -/bo/nga/	co: -/co/sha/	do: -/do/ba/	fo: -/fo/hla/	go: -/go/qa/	ho: -/ho/sha/
bu: -/bu/tha/	cu: -/cu/la/	du: -/du/ba/	fu: -/fu/na/	gu: -/gu/qa/	hu: -/hu/bha/
5	5	5	5	5	5

j..	k..	l..	m..	n..	p..
ja: -/ja/ha/	ka: -/ka/la/	la: -/la/la/	ma: -/ma/ka/	na: -/na/ka/	pa: -/pa/ka/
je: -/je/za/	ke: /ke/pha/	le: -/le/tha/	me: -/me/ma/	ne: -/ne/la/	pe: -/pe/ta/
ji: -/ji/ka/	ki: -/ki/pi/li/ta/	li: -/li/nda/	mi: -/mi/la/	ni: -/ni/ka/	pi: /i/pi/ki/
jo: -/jo/va/	ko: -/ko/lo/bha/	lo: -/lo/la/	mo: -/mo/ma/	no: /no/dwa/	po: /i/po/si/
ju: -/ju/la/	ku: /u/su/ku/	lu: -/lu/nga/	mu: -/mu/ka/	nu: /i/nu/nu/	pu: -/pu/tu/ka/
5	5	5	5	5	5

q..	r..	s..	t..	v..	w..
qa: -/qa/la/	ra: /i/ra/bha/	sa: -/sa/la/	ta: -/ta/pa/	va: -/va/la/	wa: -/wa/sha/
qe: -/qe/thu/ka/	re: /i/re/yi/za/	se: -/se/nga/	te: -/te/ta/	ve: -/ve/la/	we: -/we/la/
qi: -/qi/na/	ri: /i/ri/ngi/	si: -/si/ka/	ti: -/ti/ti/li/za/	vi: -/vi/mba/	wi: /i/wi/sa/
qo: -/qo/la/	ro: /i/ro/zi/	so: -/so/la/	to: -/to/mu/la/	vo: -/vo/ndla/	wo: -/wo/nga/
qu: -/qu/la/	ru: /i/ru/la/	su: -/su/ka/	u: -/tu/sa/	vu: -/vu/za/	wu: -/wu/la/
5	5	5	5	5	5

x..	y..	z..
xa: -/xa/ka/	ya: -/ya/la/	za: -/za/ma/
xe: -/xe/ga/	ye: -/ye/ka/	ze: -/ze/ce/za/
xi: -/xi/ka/	yi: -/yi/mba/	zi: -/zi/la/
xo: -/xo/la/	yo: -/yo/nga/	zo: -/zo/nda/
xu: -/xu/bha/	yu: -/yu/bu/za/	zu: -/zu/la/
5	5	5

4. Syllable comprising 3 letters – 2 consonants plus a vowel (187)

bh..	ch..	cw..	dl..	dw..	fw..	gc..
bha: -/bha/la/	cha: -/cha/za/	cwa: -/cwa/ka/	dla: -/dla/la/	dwa: /i/dwa/la/	fwa: /i/fwa/na/	gca: -/gca/ba/
bhe: -/bhe/ka/	che: -/che/za/	cwe: -/cwe/nga/	dle: -/dle/ka/	dwe: -/dwe/ba/	fwe: /e/si/fwe/ni/	gce: /i/gce/ba/
bhi: -/bhi/nqa/	chi: -/chi/tha/	cwi: -/cwi/la/	dli: -/dli/sa/	dwi: /u/dwi/	fwi: /e/fwi/ni/	gci: -/gci/na/
bho: -/bho/ka/	cho: -/cho/la/		dlo: -/dlo/nga/			gco: -/gco/ba/
bhu: -/bhu/la/	chu: -/chu/sha/		dlu: -/dlu/la/			gcu: -/gcu/la/
5	5	3	5	3	3	5
SUBTOTAL = 29						

gq..	gw..	gx..	hl..	hh..	jw..	kh..	kl..
gqa: -/gqa/va/	gwa: -/gwa/za/	gxa: -/gxa/nga/la/za/	hla: -/hla/la/	hha: -/hha/la/	jwa: -/jwa/ye/la/	kha: /kha/la/	kla: -/kla/ya/
gqe: /i/gqe/be/	gwe: -/gwe/dla/	gxe: /i/si/gxe/be/	hle: -/hle/la/	hhe: -/hhe/bhu/	jwe: -/jwe/tha/	khe: -/khe/tha/	kle: -/kle/za/
gqi: -/gqi/ba/	gwi: -/gwi/li/ka/	gxi: -/gxi/la/	hli: -/hli/na/	hhi: -/hhi/ya/	jwi: -/jwi/ba/	khi: -/khi/za/	kli: -/kli/nya/
gqo: -/gqo/ka/		gxo: -/gxo/ba/	hlo: -/hlo/ba/	hho: /hho/hlo/		kho: -/kho/mba/	klo: -/klo/za/
gqu: -/gqu/za/		gxu: -/gxu/ma/	hlu: -/hlu/za/	hhu: -/hhu/la/		khu: -/khu/za/	klu: -/klu/bha/
5	3	5	5	5	3	5	5

kw..
kwa: /Kwa/Ma/shu/
kwe: /kwe/ndlu/
kwi: /u/kwi/ndla/
3
SUBTOTAL = 39

Note that the examples highlighted in yellow in the lists below do not constitute single syllables. As is evident from the lists, these examples have not been counted in the count of isiZulu syllables. They have been added here to emphasise the mistakes often made when syllables are identified. *(Refer to the discussion under the heading 'Single consonant syllable /m/' above.)*

lw..	**mb..**	**mf..**	**mp..**	**mq..**	**mt..**
lwa: -/lwa/ngi/sa/	mba: -/mba/ba/za/	mfa: -/mfa/mfa/tha/	mpa: /i/mpa/hla/	mqa: -/m/qa/bu/le/	mta:
lwe: -/lwe/ndi/sa/	mbe: -/mbe/sa/	mfe: -/mfe/ngu/za/	mpe: /i/mpe/mpe/	mqe: /u/m/qe/ma/ne/	mte:
lwi: -/lwi/sa/	mbi: -/mbi/shi/za/	mfi: -/mfi/mfi/tha/	mpi: -/mpi/ntsha/	mqi: -/m/qi/ni/se/	mti:
	mbo: -/mbo/za/	mfo: -/mfo/nyo/za/	mpo: -/mpo/ngo/lo/za/	mqo: -/m/qo/be/le/	mtu:
	mbu: -/mbu/lu/za/	mfu: -/mfu/mfu/tha/	mpu: /i/mpu/mpu/the/	mqu: -/m/qu/ku/le/	mto: /mto/ti/
3	5	5	5	0	1
SUBTOTAL = 19					

mv..	**nc..**	**nd..**	**ng..**	**nh..**	**nj..**
mva: /i/mva/la/m/lo/mo/	nca: /nca/ma/shi/	nda: -/nda/nda/za/	nga: -/nga/ba/za/		nja: /i/nja/
mve: /i/mve/lo/	nce: -/nce/nga/	nde: /nde/nde/nde/	nge: -/nge/na/		nje: /nje/ma/ne/
mvi: -/mvi/thi/	nci: -/nci/nza/	ndi: -/ndi/za/	ngi: -/ngi/mba/za/	nhi: -/nhi/nhi/za/	nji: /i/nji/ni/
mvo: -/mvo/ko/qo/	nco: -/nco/ma/	ndo: /i/ndo/da/	ngo: /ngo/ba/		njo: /i/njo/ma/ne/
mvu: /i/mvu/ku/za/ne/	ncu: -/ncu/ku/za/	ndu: /i/ndu/ku/	ngu: /i/ngu/bo/		nju: /i/nju/la/
5	5	5	5	1	5
SUBTOTAL = 26					

nk..	**nq..**	**ns..**	**nt..**	**nw..**	**nx..**
nka: -/nka/nka/za/	nqa: -/nqa/ka/	nsa: /i/nsa/da/	nta: /i/nta/ba/	nwa: /u/nwa/bu/	nxa: -/nxa/da/
nke: /i/nke/mba/	nqe: -/nqe/ku/za/	nse: /i/nse/le/	nte: /i/nte/be/	nwe: -/nwe/ba/	nxe: -/nxe/phe/ze/la/
nki: /i/nki/nse/la/	nqi: -/nqi/nda/	nsi: /i/nsi/la/	nti: /i/nti/ba/ne/	nwi: -/nwi/za/	nxi: -/nxi/fa/
nko: /i/nko/ndlo/	nqo: -/nqo/ba/	nso: /i/nso/	nto: /i/nto/		nxo: -/nxo/tho/ze/la/
nku: /i/nku/khu/	nqu: -/nqu/ma/	nsu: /u/nsu/ku/mbi/li/	ntu: /i/ntu/lu/ntu/lu/		nxu: /i/nxu/shu/nxu/shu/
5	5	5	5	3	5
SUBTOTAL = 28					

ny..	**nz..**	**ph..**	**qh..**	**qw..**	**sh..**	**sw..**
nya: /i/nya/nga/	nza: /i/nza/la/ba/ntu/	pha: -/pha/nga/	qha: -/qha/tha/	qwa: /i/si/qwa/qwa/	sha: -/sha/qa/	swa: u/swa/zi/
nye: -/nye/nye/za/	nze: /i/nze/ka/	phe: -/phe/ka/	qhe: -/qhe/la/	qwe: u/qwe/mbe/	she: -/she/la/	swe: -/swe/la/
nyi: -/nyi/ba/	nzi: /i/nzi/ma/	phi: -/phi/ka/	qhi: /i/qhi/na/	qwi: /qwi/	shi: -/shi/nga/	swi: -/swi/ca/
nyo: /i/nyo/ngo/	nzo: /i/nzo/tha/	pho: -/pho/la/	qho: -/qho/la/		sho: -/sho/na	
nyu: -/nyu/sa/	nzu: /i/nzu/lu/	phu: -/phu/za/	qhu: -/qhu/ba/		shu: -/shu/ka/	
5	5	5	5	3	5	3
SUBTOTAL = 31						

st../pr../kr..	**th..**	**xh..**	**yw..**	**zw..**
Only foreign (and	tha: -/tha/mba/	xha: -/xha/ka/	ywa: -/la/ywa/	zwa: /u/ku/zwa/na/
Shortened) words:	the: -/the/la/	xhe: /i/si/xhe/ke/	ywe: /u/sha/ywe/	zwe: /i/zwe/
/i/sto/fu/	thi: -/thi/nta/	xhi: /i/xhi/ba/		zwi: /i/zwi/
/u/m/pri/sti/	tho: -/tho/la/	xho: /xho/fo/		
/u/Kri/stu/	thu: -/thu/tha/	xhu: -/xhu/ma/		
0	5	5	2	3
SUBTOTAL = 15				

5. Syllable comprising 4 letters – 3 consonants plus a vowel (79)

chw..	dlw..	gcw./gqw./gxw.	hlw..	klw..	mch../mph..	mqh../mxh..
chwa: -/chwa/sha/za/	dlwa: -/dlwa/ngu/lu/ka/	-/gcwa/la/	hlwa: -/hlwa/ya/	klwa: /i/klwa/	/u/m/cha/zi/	/u/m/qha/nsa/
chwe: -/chwe/nsa/	dlwe: /u/m/dlwe/ngu/la/	-/gcwe/le/za/	hlwe: -/hlwe/lwa/	klwe: -/klwe/bha/	/u/m/che/ke/le/ le/	/u/m/qhe/yo/
chwi: /chwi/		-/gcwi/li/	hlwi: -/hlwi/tha/	klwi: /-klwi/klwi/za/	/u/m/chi/za/	/u/m/qhi/no/
					/u/m/cho/bo/zo/	/u/m/qho/bo/
		-/gqwa/ba/za/			/u/m/chu/thi/	/u/m/qhu/de/la/na/
		-/gqwe/tha/			/u/m/pha/ka/thi/	/u/m/xha/ka/
					/u/m/phe/ki/	/u/m/xhe/ke/xhe/ke/
		-/gxwa/la/			/u/m/phi/ni/	/u/m/xhi/li/ba/
					-/m/pho/se/le/	-/m/xho/ko/ze/
					/u/m/phu/me/la/	/u/m/xhu/ma/ni/si/
3	2	6	3	3	0	0
SUBTOTAL = 17						

mqw..	mth..	ncw..	ndw..	ngc..	ngq..	ngx..
mqwa: /u/m/qwa/yi/ba/	mtha: /m/tha/the/	ncwa: -/ncwa/za/	ndwa: /i/ndwa/ngu/	ngca: -/ngca/bha/	ngqa: /i/si/nqa/	ngxa: /ngxa/mbu/
mqwe: /u/m/qwe/bu/	mthe: /m/the/thi/se/	ncwe: -/ncwe/ba/	ndwe: /i/ndwe/ba/	ngce: -/ngce/da/	ngqe: /ngqe/she/za/	ngxe: /i/ngxe/mu/
	mthi: /m/thi/ka/	ncwi: -/ncwi/nza/	*ndwe: -/ndwe/za/*	ngci: -/ngci/fi/za/	ngqi: /ngqi/thi/	ngxi: -/ngxi/nya/
	mtho: /m/tho/kwe/			ngco: -/ngco/la/	ngqo: /ngqo/fa/	ngxo: -/ngxo/li/sa/
	mthu: /m/thu/qu/			ngcu: /i/ngcu/ la/zi/	ngqu: /ngqu/bu/za/	ngxu: i/ngxu/mba/
0	0	3	2	5	5	5
SUBTOTAL = 20						

ngw..	**nhl..**	**njw..**	**nkw..**	**nqw..**	**nsw..**
ngwa: /i/ngwa/vu/ma/	nhla: /i/nhla/ba/	njwa: i/njwa/ye/lo/	nkwa: /i/nkwa/zi/	nqwa: -/nqwa/za/	nswa: /i/nswa/co/
ngwe: /i/ngwe/	nhle: /i/nhle/se/		nkwe: /i/nkwe/lo/	nqwe: -/nqwe/ne/la/	nswe: /i/nswe/mpe/
ngwi: /i/ngwi/ci/	nhli: /i/nhli/zi/yo/		nkwi /i/nkwi/ndla/		nswi: -/nswi/nya/
	nhlo: /i/nhlo/ko/				
	nhlu: /i/zi/nhlu/ngu/				
3	5	1	3	2	3
SUBTOTAL = 17					

ntw..	**nxw..**	**nyw..**	**nzw..**	**qhw..**	**shw..**	**thw..**
ntwa: /i/ntwa/la/	nxwa: /u/m/nxwa/zi/be/	nywa: /i/zi/nywa/na/	nzwa: /i/nzwa/ka/bi/	qhwa: -/qhwa/ya/	shwa: /shwa/qa/	thwa: /i/si/thwa/thwa/
ntwe: -/ntwe/za/	nxwe: /i/nxwe/le/ha/	nywe: /ba/thu/nywe/	nzwe: /ye/nzwe/	qhwe: -/qhwe/ba/	shwe: /shwe/le/za/	thwe: /thwe/bu/la/
ntwi: -/ntwi/sha/				qhwi: -/qhwi/za/	shwi: /shwi/ba/	thwi: /thwi/thwa/
3	2	2	2	3	2	3
SUBTOTAL =18						

tsh..
tsha: -/tsha/la/
tshe: -/tshe/la/
tshi: /i/tshi/tshi/
tsho: /u/m/tsho/lo/
tshu: /i/si/tshu/lu/
5
SUBTOTAL = 5

6. Syllables comprising 5 letters – 4 consonants plus a vowel (17)

mxhw..	**ndlw..**	**ngcw..**	**ngqw..**	**ngxw..**
mxhw: /u/m/xhwe/le/	ndlwa: /i/ndlwa/na	ngcwa: -/ngcwa/ba	ngqwa: /i/ngqwa/yi/ngqwa/yi/	ngxwe: /i/ngxwe/le/
		ngcwe: -/ngcwe/ka	ngqwe: /i/ngqwe/le	
		ngcwi: /u/mu/ngcwi/	ngqwi: /i/si/ngqwi/ndi/	
0	1	3	3	1
SUBTOTAL = 8				

nhlw..	**ntsh..**
nhlwa: /i/nhlwa/thi/	ntsha: /i/ntsha/sa/
nhlwe: /i/nhlwe/nga/	ntshe: /i/ntshe/be/
	ntshi: /i/ntshi/di/
	ntsho: /i/ntsho/li/
	ntshu: /i/ntshu/mpa/
2	5
SUBTOTAL = 7	

7. Syllables comprising 6 letters – 5 consonants plus a vowel (2)

ntshw..
ntshwa: /i/ntshwa/mu/
ntshwe: /ntshwe/
2

** Phonologically peculiar sounds, for instance the trill and long i, appearing in ideophones such as mbrr, mprr, and ndrr and thwii and shwii have not been included in this list because of their restricted distribution.*

Appendix C: Sesotho
Sesotho phonemes, complex graphemes (digraphs, trigraphs and consonant blends) and syllables

Sesotho does not use all the letters of the alphabet to represent speech sounds. Sesotho does not have words (or at least original words) containing 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').

This list of the graphemes representing phonemes in the table below is divided into four sections, namely (1) vowel phonemes, (2) consonant phonemes represented by a single letter, (3) digraphs: phonemes represented by two letters and (4) trigraphs: phonemes represented by three letters in the orthography. There are 37 phonemes represented by particular graphemes in total.

Vowel phonemes	Consonant phonemes		
	Single letter	Digraphs	Trigraphs
a	b		
e			
i	D		
o	F		
ê	h	Hl	
ô	j		
u	k	Kg	
	l		
	m		
	n	ng, ny	
	p	ph	
	q	qh	
	r		
	s	sh	
	t	th, tj, tl, ts	tjh, tlh, tsh
	w		
	y		
7	***16***	***11***	***3***
Grand total: 37			

Sesotho consonant clusters

The consonant clusters are often referred to as consonant blends. We can subdivide the consonant clusters into groups according to the number of letters and phonemes that make up the cluster. In this way we will distinguish between consonant clusters comprising two letters, each letter being a phoneme, three-letter consonant clusters, etc.

Table: Two-letter consonant clusters comprising two separate one-letter phonemes		
CONSONANT CLUSTER	**CONSTITUTING PHONEMES**	**EXAMPLE VERB STEM/ WORD**
hw	h+w	sehwapa
jw	j+w	jwang
kw	k+w	kwena
lw	l+w	lwana
rw	r+w	-rwala
sw	s+w	-swaba
qw	q+w	-qwela
nw	n+w	nwele
ll	l+l	-lla
tw	t+w	-tweba
mm	m+m	mme
mp	m+p	mpe
nt	n+t	nta
nk	n+k	nko
nn	n+n	nna
nq	n+q	nqala
Subtotal: 16		

Table 3: Three-letter consonant clusters/blends comprising three separate phonemes or a digraph plus a one-letter phoneme		
CONSONANT CLUSTER	**CONSTITUTING PHONEMES**	**EXAMPLE WORD**
hlw	hl+w	-hlwekisa
kgw	kg+w	-kgwele
mph	m+ph	mpho
ngw	ng+w	ngwana
nkg	n+kg	nkga
nkw	n+k+w	nkwela
nqw	n+q+w	-nqwedisa
nth	n+th	ntho
ntj	n+tj	ntja
ntl	n+tl	ntlo
nts	n+ts	ntsu
ntw	n+t+w	ntwa
nny	n+ny	-nnyantsha
nng	n+ng	-nngolla
ptj	p+tj	-ptjatla
psh	p+sh	pshele
qhw	qh+w	-qhwala
shw	sh+w	shwalane
thw	th+w	-thwathwaretsa
tlw	tl+w	utlwa
tsw	ts+w	-tswala
Subtotal: 21		

Table : Four-letter consonant clusters comprising a digraph plus two separate one-letter phonemes or a trigraph plus a one-letter phoneme		
CONSONANT CLUSTER	**CONSTITUTING PHONEMES**	**EXAMPLE WORD**
nkgw	n+kgw	nkgwela
ntjh	n+tjh	ntjha
ntlw	n+tl+w	-ntlwaela
ntsh	n+tsh	ntsha
nthw	n+th+w	-nthwadisa
nqhw	n+qh+w	-nqhwadisa
ntsw	n+ts+w	lentswe
tshw	tsh+w	tshweu
mpsh	m+p+sh	mpshe
ntsw	n+ts+w	ntswaki
Subtotal: 10		

Table : Five-letter consonant clusters comprising a trigraph plus two one-letter phonemes		
CONSONANT CLUSTER	**CONSTITUTING PHONEMES**	**EXAMPLE WORD**
ntjhw	n+tjh+w	-ntjhwela
ntshw	n+tsh+w	-ntshwela
ntlhw	n+tlh+w	-ntlhwella
Subtotal: 3		
GRAND TOTAL: 50		

The Sesotho syllables are similar to isiZulu