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'Tools for Improving Reading' Series

How to Provide Effective Reading Instruction





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Glossary

Academic learning time: the amount of time actually devoted to activities that have a reasonable chance of fostering learning.

Allocated time: the amount of time scheduled for instruction, whether it is actually used or not.

Allophone: one of two or more variants of the same phoneme. For instance, the aspirated /p/ of pin and the unaspirated /p/ of spin are allophones of the phoneme /p/.

Automaticity: the ability to do something or carry out actions without conscious attention.

Blending: To combine the sounds represented by letters to pronounce or sound out a word.

Clue words: These are words that authors use to signal readers as to how a text is organized (first, next, finally, in comparison, etc.)

Cohesion: The grammatical and lexical linking of information within a text that holds the text together and gives it meaning.

Connected phonation: pronouncing the phonemes of a word without breaking the speech stream (“ssssaaaannnn”).

Consonant: Components of speech that are articulated by partial or complete closure of a part of the vocal tract. In English, consonants tend to have a consistency of pronunciation and so are the first letters taught to children (in other languages, the vowels may be more consistent).

Concepts of print: Features of written language such as their organization from top to bottom, left to right, the role of punctuation, spaces between words and the like.

CROWD: A set of prompts that teachers can use during shared reading to increase student involvement and use of language.

Curriculum: Those things that are taught, that students are supposed to learn.

Decodable text: Instructional texts used to provide students with concentrated decoding practice. These texts limit the introduction of new words to those that fit the spelling patterns the students have already learned and provide a lot of repetition of these patterns.

Decoding: Translating printed words to speech by using the letter–sound relationships.

Dialect: A variety of a language which has different pronunciation, grammar or vocabulary than the standard form of the language.

Dialogic reading: Dialogic reading is a shared reading activity in which the reader and the listeners interact about what is being read.

Domain knowledge: The knowledge someone has about a particular topic or domain.

Expository texts: Texts whose purpose is to present information or to explain ideas. See informational text.

Executive function: A set of mental skills that include intentionality, flexible thinking, self-control, and memory management. See metacognition.

Eye-voice span: It is the distance between the eye and the voice during oral reading.

Genre: A type of text based on author purpose and entailing a common set of features and organizational structures.

Gradual release of responsibility: An instructional approach to teaching students to carry out a series of complex actions. The teacher guides students through the reading of a text reading, with the teacher carrying out all the

actions and providing explanations of each step. Over time, the students take over the various actions and the teacher's role recedes.

Guided reading: Reading comprehension activity in which students read a text under the guidance of a teacher. Also referred to as directed reading.

Guided oral reading: An activity used to develop text reading fluency. Students read text aloud and receive feedback from the teacher or another student.

High-frequency words: Words including of, like, he, she, I, the, but, good, and is that occur often in oral and written language.

Home language(s): A language a person learns at home, usually from parents.

Homophone: Words that have the same pronunciation but different spellings and meanings.

Inference: Conclusions and connections made by readers based on information provided by the text, but not stated explicitly in the text.

Informational text: Texts whose purpose is to present information or ideas. See expository text.

Literal recall. The ability to identify meanings that are stated explicitly in the words of a text.

Macrostructure, text: The overall structure of a text including the plot or major sections.

Metacognition: A person's ability to think about and manage their own thinking, including self-awareness and self-regulation. See executive control.

Microstructure, text: The local arrangement and connections between ideas within a text.

Monitoring: The act of observing one's own reading to identify whether a text is being understood or not.

Morphology: the study of the structure and forms of words and the meaningful parts of words including derivations and inflections.

Narrative text: Text that tells a story or recounts an event.

Onset: The consonant sounds in a syllable that precede the vowel.

PEER: This acronym stands for Prompt, Evaluate, Expand, Revise. It is a dialogic reading technique that encourages students to think more thoroughly about the text that is being read to them.

Phoneme. The smallest unit of sound in spoken language that makes a difference in communication.

Phonemic awareness: The ability to detect and manipulate the smallest units (i.e., phonemes) of spoken language.

Phonics: A reading instruction approach that emphasizes the relationships between the sounds of language and the letters (i.e., letters or letter combinations) that represent those sounds.

Prior knowledge: The knowledge that a reader brings to the text.

Reading comprehension strategies: Intentional actions taken by readers to enhance comprehension, particularly when reading a difficult text. Some popular strategies include visualizing, self-questioning, monitoring, summarizing, and using text structure

Rime: The part of a syllable that includes the vowel and any consonants that follow the vowel in syllable.

Round robin reading: An activity in which children take individual turns reading a portion of a text aloud with the whole group or class listening. This is not a recommended activity.

Shared reading: Instruction in which the teacher reads a text to the students and involves the students in the reading.

Sight vocabulary: Words that a person can recognize and read quickly and automatically without evident support of decoding.

Situation model: A reader’s translation of the meaning of a text into a mental form that includes a combination of text information and the reader’s prior knowledge. See text model.

Story map: An organizational chart that summarizes the key structural elements of a story (e.g., setting, character, problem, character motivation, attempt, outcome, reaction). Used for teaching reading comprehension.

Syllable: A unit of speech, either a word or part of a word, containing a vowel or vowel sound.

Syntax: The structure of word order in sentences, clauses, and phrases (sentence grammar).

Systematic instruction: Systematic instruction in reading is a plan of instruction (e.g., scope and sequence) that takes students through an explicit sequence of learning activities.

Text model: The wording and information content that is explicitly represented in a text. Readers must translate this information into mental form to comprehend. See situation model.

Text structure: Ways of organizing the information in texts including compare-contrast, problem-solution, cause-effect, time sequence (timeline), description, and chronological order.

Text reading fluency: The ability to read orally a text fluently, with automaticity, and with proper expression. Also referred to as oral reading fluency or reading fluency.

Text Talk: A method for teaching vocabulary in the context of teacher read alouds.

Transparency: Refers to the consistency or simplicity with which a written language represents an oral language. A language with high consistency is considered to be transparent.

Turn and Talk: A teaching strategy in which the teacher has the children discussing with a partner before speaking to the class.

Verbal reasoning: The analysis or integration of information provided through language (written or oral); includes the ability to infer, organize, compare, contrast, and evaluate information.

Vowel: Speech sounds made without stoppage or friction of the air flow as it passes through the vocal tract. In English the vowels are a, e, i, o, u.

Wait time: The amount of time between when the teacher asks a question and when the teacher says something again. Sometimes referred to as “think time.”

Preface

Literacy is an essential skill and high-quality teaching promotes it best. Literacy plays an essential role in the economic, civic, and social well-being of individuals and societies (Shanahan & Shanahan, 2008). Accordingly, a key goal of education is to promote reading and writing development for all. However, 260 million children are not even in school (World Bank, 2019) and it is estimated that 387 million children globally are failing to acquire basic literacy skills (UNESCO, 2017). Fifty-three percent of children in low- and middle-income countries cannot read and understand a simple story by the end of primary school (World Bank, 2021a). COVID-19 related school closures may cause this figure to rise as high as 70% (World Bank, 2021b). The most certain way to address this need is to provide a substantial amount of high-quality teaching of an evidence-aligned curriculum in the early grades.

High-quality teaching focuses instruction on evidence-aligned content for reading development. High quality teaching ensures that there will be sufficient effectual and efficient guidance, support, and practice to achieve success for the greatest numbers of students. An evidence aligned curriculum means that those skills, abilities, and knowledge that research has proven to be integral to reading development will be the focus of that instruction. And it is crucial that such teaching be provided to primary grade children both to secure the possibility of universal literacy and to provide the basis for later success with technical and higher education.

This document shows how to translate such a curriculum into effective classroom experiences. The purpose of this document is to describe how an evidence-aligned curriculum for early grade reading can be translated into the classroom experiences most likely to increase literacy learning. It will propose the most effective content to include in classroom activities, the best formats and techniques for presentation, appropriate amounts of instruction and sequences of presentation, along with a myriad of other practical considerations aimed at helping teachers to deliver high-quality early grade reading instruction.

The audience for this paper is early grade reading education teachers and their supporters. The intended audience of this paper is those individuals who will organize and administer instructional programs aimed at the first three years of formal education (including pedagogical coordinators and curriculum specialists), those teachers who will deliver the lessons in such programs, and those who evaluate the quality of them. Although there is a great deal of variation in the structure and conditions of such programs across the globe, this paper will focus on classroom instruction delivered by a single teacher, with potentially large numbers of students, and with a limited possibility for highly differentiated teaching. The basic pedagogical principles that guided the development of this paper are also relevant in more advantaged situations in which there are resources available to extend (e.g., more time) or intensify (e.g., smaller class sizes, greater opportunity for differentiation) the instruction described here.

Reading is basically a language activity, and this paper focuses primarily on alphabetic languages. Reading is basically a language activity; it grows from the foundation of oral language development and text can be properly characterized as *written language*. This paper will focus specifically on making children literate in English or other alphabetic languages (e.g., languages in which written symbols represent the pronunciations of the words rather than their meanings), with additional

examples in Portuguese and Urdu. Nevertheless, it is recognized that often such literacy teaching will be delivered to students whose first language is not the same as the one they are learning to read. Recommendations for appropriate instructional adjustments for these second language learners will be provided when possible throughout.

This paper is a companion to *How Children Learn to Read: Toward Evidence-Aligned Lesson Planning*, but focuses on classroom practices. This paper may be thought of as a companion *How Children Learn to Read: Toward Evidence-Aligned Lesson Planning*, another World Bank report. That document described the literacy curriculum in greater detail than is provided here. This document presents the reading curriculum at a more conceptual level while focusing more specifically on how to organize and prioritize these learning goals, offering specifics about how to successfully teach such a curriculum.

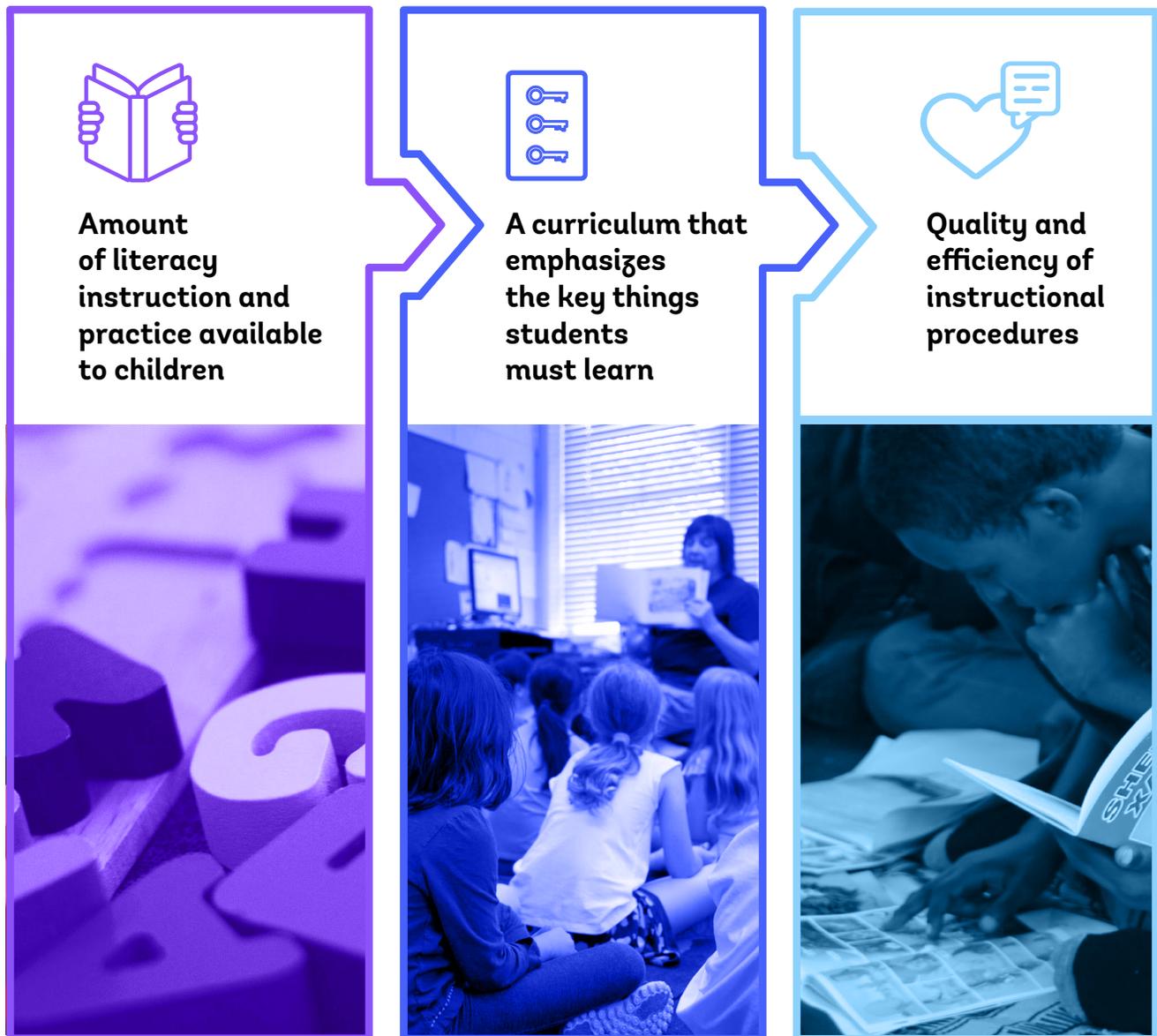


A Literacy Instruction Framework

Effective instruction depends on a good curriculum and the amount and quality of instruction.

Effective literacy instruction depends upon three factors: (1) the amount of reading instruction and literacy practice available to the students; (2) the degree to which the curriculum emphasizes those key things that students must learn if they are to become literate; and (3) the quality and efficiency of the instructional procedures used to teach reading. These three components are the major alterable determinants of how well students will learn to read, and accordingly, this instructional framework addresses each of these dimensions of reading instruction.

Figure 1: Elements of effective literacy instruction





**Amount
of literacy
instruction and
practice available
to children**



Amount of Instruction

Learning is a product of aptitude, ability, quality of instruction, perseverance, & learning opportunities. John Carroll's "Model of School Learning" (1963) is a useful guide for thinking about teaching and learning. Carroll hypothesized that the amount of learning is a ratio between the time needed to learn something and the actual time spent learning it. He posited that school learning was the result of five factors, all of which are related to amount of instruction or academic experience: aptitude, ability to understand instruction, perseverance, opportunity to learn, and quality of instruction. According to this model, aptitude, a person's ability to learn, is not conceived of as a score on an IQ test or something like that. Instead, aptitude refers to the amount of time one needs to learn something. Students who differ in language learning aptitudes are expected to require different amounts of time to learn to read. Likewise, some children are raised in home environments especially supportive of language development, perhaps even providing some reading instruction at home which may affect how much formal instruction they might need. Opportunity to learn refers to the amount of time schools make available to learn something and it is worth noting that high quality instruction tends to be more efficient, requiring less learning time on the part of the students because of its clarity and consistent emphasis. Even when sufficient learning time is made available, students may lack the motivation or attention spans that would allow them to persevere to take full advantage of the opportunity.

Indeed, some proficient young learners acquire reading skills quickly and with little instruction.

Research shows that some children acquire reading skills quickly and seemingly without effort. Whatever the reason for this – aptitude, motivation, or advantages outside the classroom – these students will not require as much explicit teaching to succeed in learning to read. In the early grades, these proficient young learners tend to make particularly fast progress in the reading of words. Such students can work independently more often in the classroom, including working with other children in cooperative activities away from the teacher (Connor, et al, 2011; Connor, et al, 2013). When other students are still working on decoding, these students may profitably engage in more independent reading and activities that require the use of reading rather than working closer to the teacher on how to read.

This model argues for maximizing students' academic learning time (ALT)—time that can foster learning goals. Children can certainly learn some literacy skills at home, but the availability of schools increases opportunity to learn. A distinction should be made here between the time schools allocate for learning and what has been called academic learning time (ALT). Though a school may mandate that one or two hours per day be devoted to reading instruction, that does not mean that all children will gain the full benefit of those hours. That time, for instance, may be disrupted by bathroom breaks, fire drills, or other, perhaps necessary, but useless activities when it comes to fostering reading ability. The children themselves may be disruptive or inattentive in a poorly managed classroom. Looking out the window, talking with friends, or crawling under the desks and tables will not improve reading achievement. Finally, the teacher's choices themselves can undermine the value of the time allotted for learning. Teaching children letter names and the language sounds associated with those letters is fundamental to successful reading instruction, but activities like coloring letters do not help students to master those skills, and yet such activities may take up a considerable amount of learning time—wasting the opportunity rather than improving children's learning. ALT refers to the amount of time that is devoted to activities that have a reasonable possibility of fostering learning (Fisher, et al, 2015). The implications of ALT are multiple. It is essential that schools maximize—within their available resources—the amounts of time to be devoted to literacy teaching. Additionally, they should do what is possible to reduce unnecessary interruptions and disruptions of this time. Teachers also

need supervision and guidance when it comes to classroom management to ensure orderly learning environments and they must recognize the value of instructional time and have a clear idea of the kinds of activities that will be most productive of student learning.

Unfortunately, research has not determined an optimum amount of instructional time for reading instruction. Schools around the world vary in the lengths of school years, school days, and amount of instructional time accorded to reading and writing (OECD, 2020). There are numerous reasons for these variations including longstanding traditions and availability of educational funding. The amounts of time needed for reading may differ across languages as well (Borleffs, Maassen, Lyytinen, & Zwarts, 2019). English, for instance, because of the complexity and depth of its writing/spelling system, tends to require a greater amount of formal early instruction than languages that have simpler and more transparent spelling schemes (e.g., Finnish, Spanish). Similar to English, Urdu has an opaque and complex orthographic system, i.e., it has many-to-one correspondences between sounds (phonemes) and letters (graphemes) (Rao Vaid, Srinivasan, & Chen, 2010). However, compared to English, Urdu has a richer and more complex sound system with 44 consonants, eight long oral vowels, seven long nasal vowels, three short vowels, and several diphthongs, albeit with some dispute among experts about the total number of consonants and vocal sounds (Hussain, 2004). The omission of diacritics¹ from the script (requiring the reader to infer the missing vowel information), the cursive nature of the graphemic system (Mirdehghan, 2010), and the changes in letter names depending on their position in the word add further layers of complexity to Urdu orthography (Farukh & Vulchanov, 2014); resulting in the need for even more time to be spent on formal reading instruction in the language.

It is imperative that schools maximize the amount of reading instruction that they provide. This is especially important during the first three years of schooling because of the need to master the decoding or word reading aspects of literacy. Increases in the amount of instruction devoted to reading tend to result in greater levels of average achievement and/or more children accomplishing productive levels of learning (Andersen, Humlum, & Nandrup, 2016). It is assumed here that most schools will be able to allocate an hour per day to literacy instruction per language. If it is possible to expand this time, that would be beneficial.

As for reading instruction, the benefits of time spent are often indistinguishable across settings or circumstances. For example, parent efforts to teach children can be as effective as teacher efforts, all things being equal, and teachers who successfully encourage their students to read away from school are expanding the time resource in a potentially valuable way. Likewise, at least with older children, time spent reading in a social studies or science class is likely to be as beneficial as time spent reading during reading lessons. Nevertheless, it is important to recognize that circumstances are not always equal: children reading at home may not be able to obtain assistance when having difficulty, or there, they may have no opportunity to discuss what they are reading. It is worthwhile to encourage children's application of reading skills throughout the school day and outside of school as well.

The division of time among productive subskills is as important as the total amount of instruction time. In science, time can only be a measure of something; it is not a variable on its own. In terms of reading instruction, that is where curriculum comes in (the next topic of discussion). When we are talking about the amount of time needed to develop sufficient reading ability, we are talking about *time devoted to teaching particular aspects or components of literacy*. Learning to read depends on a multiplicity of skills and abilities, all of which must be taught. When making decisions about instructional time, it is not enough to dedicate sufficient total time, but it is also necessary to divide

¹ A diacritic or diacritical mark is a symbol that is added to a letter to indicate a change in its sense, function, or pronunciation. In the Arabic script, short vowels are indicated by diacritical marks placed above or below a consonant or long vowel.

that time productively among this multiplicity of skills (Foorman, et al., 2004). To simplify those decisions for classroom teachers, the curriculum section of this paper organizes the various literacy skills and abilities into two major components and assigns roughly equal amounts of instruction to each. Linking time and curriculum in that way should help prevent teachers from concentrating too much time on some factors and too little on others, a matter of importance since successful reading requires an orchestration of all of its varied component skills. By devoting sufficient time to each key component all students will have the best chance of learning to read well. If some students excel and make greater progress than the others, teachers can exempt them from some of the lessons by providing them with more autonomous opportunities to read on their own. In those circumstances in which schools may have the resources to provide extra help for struggling learners, that additional support should focus on the specific learning gaps or weaknesses that are evident in those children who are falling behind.



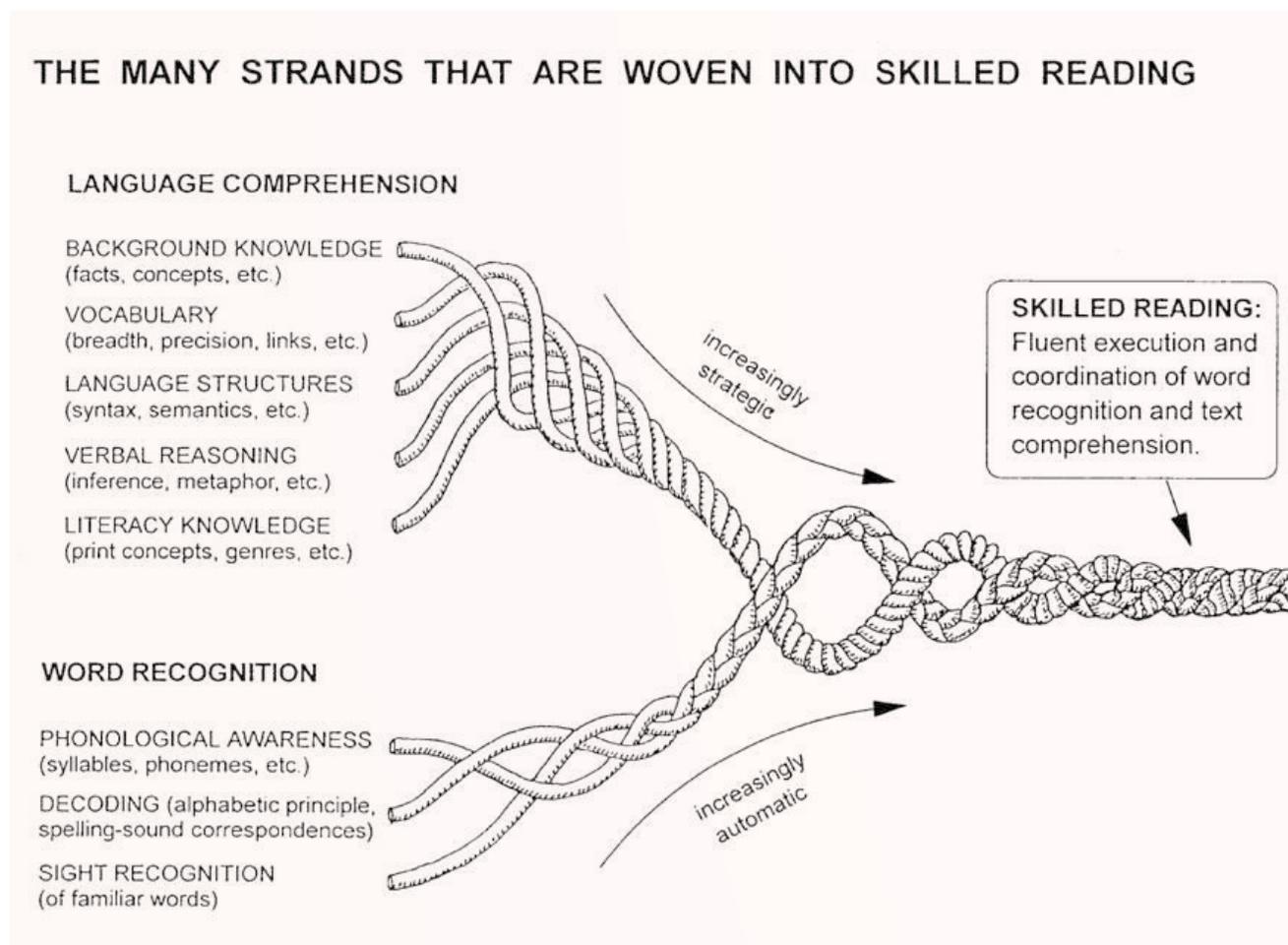
**A curriculum that
emphasizes
the key things
students
must learn**



Curriculum

Word recognition and language comprehension are the two key components of reading. Curriculum refers to those things that we teach. Because reading is a complex process involving the coordination of several kinds of skills, abilities, and knowledge, reading instruction necessarily must focus on developing all of these. Figure 2 provides a useful visual representation or summary of skilled reading (Scarborough, 2001). It describes two major strands of reading development: word recognition and language comprehension. Both are essential, and both must be fully developed if students are to become successful readers. Accordingly, teachers must focus on both from the start (Foorman, Petscher, & Herrera, 2018), and it is recommended that equal amounts of time be devoted to each. If 60 minutes are to be devoted to reading instruction daily in these early grades, then 30 minutes should focus on teaching decoding and the skills integral to that, and 30 minutes should be aimed at developing the ability to gain meaning from this decoding.

Figure 2. Scarborough's Reading Rope



Source: Scarborough, H. S. (2001). Connecting early language and literacy to later reading (dis)abilities: Evidence, theory, and practice. In S. Neuman & D. Dickinson (Eds.), *Handbook for research in early literacy* (pp. 97–110). New York, NY: Guilford Press.

Word Reading

Readers must be able to translate printed words into oral language effortlessly to read well.

Readers must learn to translate print into oral language – and they must be able to do this with little or no conscious attention. The more labored decoding is, the less likely that language will be the result. Likewise, the more conscious attention needed for accurate word recognition, the less mental or cognitive space available to think about the ideas in the text (Baddeley, 2010). This ability to carry out actions seemingly without conscious attention is usually referred to as automaticity, and our major instructional goal when it comes to word recognition is enabling the automatic processing of words (Ladinger & Samuels, 1974). When we say someone can do something fluently or with fluency, we mean that they are so good at it that they can do it with automaticity. In reading, the terms reading fluency, text-reading fluency or oral reading fluency are used interchangeably to refer to the ability to read text accurately (pronouncing properly the words the author wrote), with automaticity (doing this quickly or without conscious attention), and with proper expression (making the result sound like language by pausing and voicing in ways appropriate to the meaning and punctuation). Readers who can read text fluently are translating the text to a form that they should be able to understand and use (Bregwitz, 2005). This portion of the paper describes the skills that need to be taught to accomplish this, information about their proper sequencing or organization, explicit learning goals for each so that teachers can monitor success and know when to move on, and advice on how to teach these well.

>Phonemic Awareness (PA)

Decoding requires the reader to turn visual information into sound information. Decoding – translating print to language – requires the coordination of the ability to recognize visual patterns with the ability to process information phonologically. The more difficult portion of this equation tends to be the phonological processing. Initially, infants are focused on the phonemes of a language, trying to determine which ones are useful and which can be disposed of. Once that is accomplished – usually by about 18 months of age – their language learning shifts to words, and they begin to accumulate an amazingly extensive vocabulary over the ensuing few years (Gleason & Berko, 2016). However, to learn to read it is necessary that students have sufficient phonemic sensitivity. Explicit teaching of phonemic awareness can ensure its availability and accelerate its growth. Research has shown such instruction to be beneficial – both improving phonemic sensitivity and accelerating students' reading progress (Bus & van Ijzendoorn, 1999; Ehri, et al., 2001; National Reading Panel, 2000). This should not be surprising. If students have difficulty perceiving the separable sounds within words, one would expect them to have difficulty matching these sounds with letters or spellings.

The goal of phonemic awareness teaching is to get students to segment words and blend word parts with ease. Phonemic awareness teaching aims to get students to the point at which they can fully segment words with ease and blend phonemes back together to pronounce words. Segmentation refers to the ability to divide oral words into their phonemic constituents. For instance, the word *cat* includes three phonemes (/k/-/ă/-/t/). The issue here is with phonemes or sounds, not letters; the word *bake* includes 4 letters, but as with *cat*, these letters represent only three phonemes: /b/-/ā/-/k/. Segmentation can help increase phonemic awareness in different languages. In Portuguese, this strategy can be explicitly taught to students to help them decode the word *mal* into phonemes /m/-/a/-/l/. In the Portuguese language, as with English, there are combinations of letters that can represent a single sound, rather than each letter representing one sound. One example is the word *chama*, which has five letters but only four phonemes are represented: /ch/-/a/-/m/-/a/. In a 1st grade teacher guide used in Sobral, Brazil, students are explicitly asked to count the number of sons (sounds) or phonemes in a set of words (see Figure 3). Similar to Portuguese, Urdu reading instruction is also

complicated by the existence of letter combinations that represent one sound, in the form of aspirated consonants (e.g., *ٹھ*, *ڈھ*, etc.). For instance, the word *پھول* (*phool*, meaning flower) has four letters but three sounds: /ل/ - /د/ - /پھ/. The USAID (n.d.) Sindh Reading Program's (SRP) Reading Manual for Teachers provides an example of phonemic segmentation in which students are shown a picture of a duck, asked what it is, and what sounds can be heard in the word.

Figure 3. Word segmentation exercise in Brazilian student workbook

Leia a palavra, conte e escreva (*read the word, count and write*):

| | Quantos sons? (How many sounds?) | Quantas letras? (How many letters?) |
|--------|--|---|
| AR | | |
| RĀ | | |
| RUA | | |
| ROLA | | |
| HORTA | | |
| ENROLA | | |

Source: Adapted from Instituto Alfa e Beto (2015). *Aprender a Ler: Programa IAB de Língua Portuguesa* (3ª Edição).

Blending is the opposite: children are presented with the phonemes one-by-one and their task is to connect those sounds, blending them together so that they result in the pronunciation of words. For instance, in Mozambique, one lesson plan for grade 1 asks teachers to point to the picture of a finger (*dedo*) and separate it into phonemes (*d-e-d-o*), then syllables (*de-do*) and then say the word fluently. In the case of Urdu, in an example provided in the USAID SRP's Reading Manual for Teachers, students are shown a picture of a tub, asked what it is (*ٹب*), asked to separate the word into phonemes (*/ب/ - /ٹ/*), and then asked to combine the phonemes to pronounce the word. Once students can segment and blend easily, phonemic awareness instruction can be discontinued. Five- and six-year-old children usually can accomplish this goal with about 14-18 hours of PA instruction, though some students may not require this much, and others may need even more.

One way phonemic awareness can be taught is with onset/rime exercises: separating the first sound from the rest of the syllable. There are many ways that students can work with language sounds to develop sufficient phonemic sensitivity. Table 1 includes examples of these (see Tables 1.1 and 1.2 in the Appendix for tables in Urdu and Portuguese). Instruction should be limited to 1 or 2 of these types of activity at a time, to avoid confusion. A phonemic awareness lesson might focus on onset/rime training, for example. One syllable words consist of an onset and a rime. The rime of a word

includes the vowel and any consonants that come after, and the onset is the letter or letters preceding the vowel. With a word like *bake*, the onset is *b* and the rime is *ake*, for example. The teacher explains the act of separating the first sound one hears from the rest of the word and then provides examples of this. This work is all done by ear – the children are not seeing these words but only hearing them.

big /b/ - /ig/
 run /r/ - /un/
 lamb /l/ - /amb/

The teacher tries to make the onset sounds (the initial phonemes) with as little additional sound as possible... trying to make the consonant sound associated with the letters *b*, *r*, and *l*, while trying to pronounce as little additional vowel sound at the end of those phonemes. After demonstrating this, the teacher might engage the students in some choral participation, having all students simultaneously separating the onsets from the rimes of a collection of words. After some successful group practice, it is important to get individual responses from the children. To make this productive, the teacher must move individual turns along quickly (not taking much time with each child), and for this reason it is a good idea to have a list of single syllable words available for this practice. Moving these turns along quickly should help maintain student interest and will help students to develop fluency with this skill. Say a word to each child and have each try to separate it. Praise success and when there is an error show the class how to do it correctly. Such lessons should last about 15 minutes.

In Urdu, onset and rime exercises can similarly be used to separate the first sound from the remaining sounds. For instance:

پتنگ: /پ/ - /نگ/

کمر: /ک/ - /مر/

ہمت: /ہ/ - /مت/

A Grade 2 USAID Pakistan Reading Project (PRP) lesson plan, for example, suggests a group activity where the teacher reads out different words to students and asks them to separate the first sound of each word. For instance, the onset in the word بٹخ (*batakh*, meaning duck) is /ب/ and the rime is /ٹخ/ (USAID, 2013b).

Table 1. Phonological Awareness Skills

| Phonological Awareness Skill | Example |
|------------------------------|---|
| Word separation | The—man—ran—up—the—hill. |
| Syllabic segmentation | a—part—ment; trou—ble; air—plane |
| Rhyming | play—day; man—can; room—boom; cap—nap |
| Onset/rime | b—ig; m—an; r—ug; l--amb |
| Phoneme isolation | p—an; pa—n |
| Phoneme blending | /p/--/a/--/n/; /r/u/n/i/ng |
| Phoneme segmentation | m/a/p; t/a/bl |
| Phoneme identity | /map/ — begins with an M sound |
| Phoneme adding | ree – reed – reeder – reedera -- readeram |
| Phoneme substitution | map / cap / pap / rap; Sam / sad / sag |
| Phoneme deletion | ready / red / re / r / |

Students should see the teacher’s mouth during onset/rime practice & pay attention to their own mouths too. Teachers should seat children in such a manner and should move among the group in a way that would allow students to see the teacher’s mouth when the words are pronounced. Being able to see *how* the words are pronounced can help students to perceive the sounds (Massaro & Cohen, 1990). Also, engage students in trying to pronounce or articulate the words properly, drawing their attention to what their tongues and lips are doing in that sound production. If possible, have students look in a mirror when they pronounce the sounds.

It can also be helpful to have students use manipulable objects while making word sounds to count each phoneme. Although this kind of training is largely done by ear, it can be helpful in some lessons if students have physical objects to manipulate. For example, a teacher might ask students to count the sounds that they hear in a word. Providing pebbles, blocks, cards, or other small objects to move as they hear each sound simplifies this task and keeps the emphasis on sound perception. As the children become more adept with this, then letter cards might replace the manipulables; research shows that including letters in phonemic awareness training makes it much more effective. If children have difficulty with this task, it is usually helpful to guide students to stretch the pronunciation of the words, drawing out the vowel sounds particularly: /c/ - /ă-ă-ă-ă-ă-ă/ - /t/.

When students struggle with individual phonemes, it may help to drop back to distinguishing or separating grosser sounds like syllables and words. If students are having difficulty hearing the

sounds and do not seem to be making progress from the instruction it can sometimes help to drop back in the learning sequence. Phonemic awareness is part of a larger developmental progression referred to as phonological awareness. Children develop sensitivity to the phonological aspects of language in a sequence that runs from larger or grosser sounds (words or syllables) to smaller sounds (phonemes). For most children of 5 or 6 years of age, starting with the phonemes is likely appropriate. When that is not the case (such as when the students struggle inordinately to hear the phonemes), providing some work in orally separating sentences into words and separating words into syllables can help prepare students to gain full benefit from the phonemic awareness instruction.

Phonemic sensitivity is transferrable across languages when sounds are common—but not all are.

Sometimes children are being taught to read in a language that they have not yet fully mastered. Working across languages may introduce phonemic awareness challenges for nascent readers. Research indicates that the most transferable aspect of language is phonological sensitivity, which means that if students have accomplished a strong level of PA in their home language, these skills can be applied to the second language without much reteaching. However, what about phonemes that do not exist in the home language? These can be a problem. An example of this are the English vowels that do not exist in Spanish, or the English /l/ and /r/ sounds for Japanese speakers. In Portuguese, there are no short and long vowel sounds, and the consonant diagraphs *th* (e.g., *thank*, *those*) and *ph* (e.g., *physics*) do not exist. Additionally, vowel diagraphs such as *ea* or *ou* (combinations of two vowels) represent two distinct sounds, whereas in English those combinations each represent a single vowel sound. Likewise, there are some sounds that exist in Urdu phonology that do not have exact equivalents in the English phonological system, e.g., consonants such as ت، د، غ، ج and certain aspirated consonants. Some English vowel sounds also do not have equivalents in Urdu, e.g., *lot* (e.g., *lot*). Moreover, while the phonemes /v/ and /w/ are considered distinct in the English language, in Urdu (and Hindi), they are conditional allophones of the phoneme /v/ (represented by the letter *و* in Urdu). In other words, context determines when the grapheme is articulated as /v/ or as /w/. Providing extra attention to the sounds that don't exist in a student's home language and focusing on articulation and awareness can be helpful (Shanahan & Beck, 2006). The methods recommended above for struggling students can be beneficial as well. In any case, the goal is not perfection, but just a level of sensitivity great enough to support successful decoding.



Resource Box

Useful instructional resources to promote phonological awareness

These include a research-proven PA curriculum, as well as lots of free lesson videos, activities, and games:

- Adams, M.J., Foorman, B.R., Lundberg, I., & Beeler, T. (1998). *Phonemic awareness in young children: A classroom curriculum*. Brookes Publishing.
- Reading Rockets (n.d.). *Top 10 Resources on Phonological and Phonemic Awareness*.
- The Balanced Literacy Diet. (n.d.). *Phonemic Awareness*. The Ontario Institute for Studies in Education, University of Toronto.
- Liben, D., and Liben, M. (2020). *Best for All: Sound First Phonemic Awareness Program. Achieve the Core*.

> Letters and Sounds

Phonics instruction—the teaching of letters, sounds, and decoding—works, and students need 2-3 years of instruction. The teaching of letter and sound correspondences and decoding (the translation of spellings into pronunciations) has long been labeled as “phonics instruction.” Research on the teaching of letters, sounds, and decoding is extensive, consistent, and long-standing (Adams, 1991; Bond & Dykstra, 1967; Chall, 1967; Ehri, et al., 1991b; National Reading Panel, 2000), and it leaves no question that phonics instruction provides a learning advantage. This is also true for those learning to read in a second language (Shanahan & Beck, 2006). Because the spelling of a language is systematic, it is possible for some students to figure it out with a minimum of instruction. However, because this is a particularly complex system, all students benefit from at least some explicit, systematic phonics, and most students will require a substantial amount of phonics instruction. For those few students able to speed ahead with a minimum of phonics support, it is recommended they be allowed to engage in independent reading, writing, and spelling work while the other students work on decoding with the teacher.

Learning letter names helps kids learn letter sounds and vice versa. Students need to learn the letters and the sounds commonly associated with each of the letters. Tables 5, 5.1 and 5.2 as well as 6, 6.1 and 6.2 (see Appendix) provide lists of the consonant and vowel phonemes and the various ways those can be spelled in English, Urdu and Portuguese. The phonemic awareness work previously described can help facilitate students’ progress in learning the sounds of letters and with decoding. The reverse is true as well. Working on matching phonemes with letters can stimulate phonemic awareness development (Perfetti, Beck, Bell, & Hughes, 1987). Given this, it is recommended initially that teachers divide the decoding instructional time between PA and letters and sounds. Once phonemic awareness is accomplished, then the emphasis would be on letters and sounds alone.

Both letters (letter names) and their sounds should be taught simultaneously. There are disagreements over whether letters or sounds should be introduced first. That argument is fruitless as it does not matter much when it comes to learning (Piasta, Purpura, & Wagner, 2010; Share, 2004; Treiman, Pennington, Shriberg, & Boada, 2008; Treiman, Sotak, & Bowman, 2001). Research shows that if one starts with the letter names, it smooths the way for learning sounds. The opposite is true too: if students already know some sounds, then letter names learning proceeds more quickly. It makes best sense to approach this question in a way appropriate to the culture in which one is teaching (Ellefson, Treiman, & Kessler, 2009). If children in your community often enter school knowing more about letters than sounds, starting with letters makes sense. If they know more about sounds, then start there. Rather than teaching all the names and then all the sounds, or vice-versa, teach each letter thoroughly including name (capital and lower case), sound, and even how to print those letters. This approach has been found to be effective (Jones, Clark, & Reutzgel, 2012; Piasta, Purpura, & Wagner, 2010). With this approach teachers can take advantage of any knowledge the students already have by speeding up the lessons. If many students already know about a letter, that should allow a reduction of instruction. Likewise, if a letter is particularly challenging (some are easier to learn than others), then greater time can be spent.

Students should learn to recognize all letters, provide their most common sounds, and print them. With letters and sounds, there are three major learning goals. Students should learn to: (1) recognize and identify all capital and lower-case letters accurately when shown them in random order; (2) provide the most common sound for each letter; and (3) to print each letter legibly. Written words are made up of letters. In the English alphabet, there are 26 letters and two forms of each (capital and lowercase). The Portuguese alphabet also has 26 letters and two forms of each (capital and lowercase). Conversely, the Urdu alphabet has up to 58 letters, including 39 basic letters, a few secondary letters, and several aspirated consonants. There are no distinct letter cases in Urdu, and it is written using the

Arabic script in the *Nasta'liq* writing style. The script is cursive, with some letters taking on different shapes, depending on their position (initial, medial, or final) in the word (Mirdehghan, 2010). Readers, in any language, do not directly use letter names during reading, but research shows that knowledge of the letter names contributes to learning (Foulin, 2005). The reason for this is not entirely clear. One possibility is that since the scripts used to write letters can vary (see Figure 3), as can the language sounds associated with each of the letters, a consistent name may stabilize the concept for students – combining within that single name the entire collection of visual and auditory forms associated with it (Seidenberg, 2018).

Figure 4. Illustration of the many variations in what a letter may look like.



This is an example of a research-based lesson plan for teaching letter names, sounds, matching, printing. The following research-based lesson plan permits teachers to address each of these three learning goals within a single lesson (see Figure 5). If students struggle with any of the steps, the lesson can be repeated on ensuing days. Also, the number of days committed to each letter can be varied according to need. Some approaches focus on an individual letter for a full week, but this is rarely necessary; instruction can be more ambitious than this, moving along more quickly.

Figure 5. A Letter/Sound Lesson Plan

Letter Name Identification (1-2 minutes)

Letter Sound Identification (2-3 minutes)

Practicing with Letter in Text/Matching Letter and Sound (3-4 minutes)

Producing the Letter Form (4-5 minutes)

Source: Jones, Clark and Retugel, 2012.

The lesson begins with letter name identification—a memorization-based task. The first step in this lesson, letter name identification, is a straightforward memorization task: show the students a capital and lower-case letter and tell them the letter name; have the children repeat the name. Then show that letter along with 2-3 others and have the children point to the correct one and name it. Provide several opportunities to respond with various combinations of letters.

The second step focuses on identifying the letter sounds. Tell the students that the letter represents a sound. Show them the letter (upper and lower case) and make the sound. Draw the children's attention to how you made the sound, explaining how you held your mouth or positioned your tongue. Have the children practice making the sound and show them a picture the name of which begins with that letter. As an example, in a lesson plan for first grade students used in Mozambique, the teacher is asked to show them the upper and lower case letter P, and tell them the name and sound of the letter while facing the students, allowing them to clearly see the teacher's mouth. Finally, the teacher is

asked to demonstrate how to write the letter by tracing over it with his or her finger and explaining it step-by-step.

It is particularly helpful if you have materials that provide pictorial reminders as to the letter sounds; for example, see Figure 6. The students see the letter V, and in this case the letter is illustrated as a vase, which serves as a mnemonic or reminder to the students that the letter V represents the /v/ sound. Studies show that this kind of representation speeds things along making it easier for the students to master sound-letter relations (Ehri, 2014; Ehri, Deffner, & Wilce, 1984; Shmidman & Ehri, 2010). Once they have successfully learned the match, discontinue the use of the pictorial element.

Figure 6. Embedded mnemonic in which the illustration cues the student to the sound associated with that letter. /v/



Next, students practice recognizing letters and matching letters and sounds. The third step involves having students practice recognizing the letters in text and matching the letters and sounds. One way this may be done is to provide the students with 3-4 letter cards at a time, having them locate the appropriate one. Or show the students some simple sentences and have them point to or underline the letter that is the focus of the lesson. Another possibility is to provide the students with pictures that they can name. The students then match the pictures with the letters that represents the first sound heard in that picture name. In the final step, the teacher demonstrates how to write the letter, explaining the steps used to form it. Then students practice writing the letter with teacher feedback. This type of work should make up about half of initial word recognition study. As Figure 5 shows, those four steps can be accomplished in 10-15 minutes, and this kind of work should proportionally make up about a half to a third of the word recognition study in which children are engaged initially.

The sequence for teaching letters is arbitrary. Research has found no particular order in which to sequence the introduction of these letters (National Reading Panel, 2001). In English, most instructional programs try to start with letters that appear most frequently in the language or with letters that are relatively easy to learn. Letters like *m*, *d*, *t*, and *s* are better candidates to start than letters like *x*, *w*, *c*, and *z*. Likewise, in Urdu, letters that occur more frequently such as پ، م، ن، ر، ک can be taught before teaching uncommon letters such as ژ، ث. In Portuguese, it is common to begin with the teaching of vowels, whose letter names are the same as their sounds. Then, the prolongable consonants are introduced, that is, consonants whose sounds can easily be pronounced alone and prolonged, such as the letters F, J, M, N, V and Z. Next are the irregular consonants, that is, those that have more than one sound (L, S, R and X). Learning continues with the non-prolongable

consonants, whose sounds are blocked by the passage of air, as in the pronunciation of B, C, P, D, T, G and Q (Centro do Professorado Paulista, 2019).

Another consideration is separating letters that are highly similar visually or in pronunciations (e.g., b, d, p or m, n). For these potentially confusable letters and sounds, it is best to teach one thoroughly before introducing the other(s). For instance, start with the letter b and spend two or three days working on it, and then after several additional letters have been introduced, the letter d might be taught. The idea is to reduce the chances of confusion. In Urdu, reading programs often separate

visually similar letters (e.g. Grade 1 Lesson Plans), and for auditorily similar letters (e.g. introduced in Week 6 (Lesson 13), while the letter ء is introduced in Week 7 (Lesson 40), with six other letters being introduced in between (USAID, 2013a). Letters that sound similar are also introduced separately, e.g., the letter name and sound for ج is introduced in Week 8 (Lesson 46), while the letter name and sound for چ is introduced in Week 19 (Lesson 111), with 24 different sounds being introduced in between.

It is important to introduce vowel/consonant combinations early, using the common ones first.

Also, it is important to introduce a combination of vowels and consonants; since there are only 5 vowel letters (in English) this would mean teaching 4-5 consonants and 1 vowel. The benefit of this mixture is that it allows students to begin reading and writing words sooner. Of course, some letters have multiple sounds associated with them; in English this is particularly true of the vowels. At this early point in development, introduce only one sound for each letter. Focus on the sound most frequently associated with that letter. For the vowels, start with the “short sounds” (in English, the vowel sounds that you hear in the following words: man, hen, pin, dot, cut).

An example of this approach is seen in the Grade 1 Portuguese lesson example featured in Figure 7, where the teacher introduces first the vowel a and the consonant m to allow them to begin reading as soon as possible. After teaching the upper and lower case letters A/a and M/m, their sounds, and identifying the letters and how to write them, the teacher begins showing their students what happens when two letter sounds are combined. By introducing just one vowel and one consonant, the teacher is able to start teaching his or her students how to form real words such as má (bad), ama (love), and mamã (mom).

Figure 7. Vowel-Consonant combinations are taught in a Grade 1 Portuguese language lesson Source: Lesson plan produced by World Bank staff for use in Lusophone countries

Escreva as letras e sílabas seguintes no quadro

(Write the following letters and syllables on the board).

A | M | ma | ama | mama

**aponte para cada uma das letras e sílabas e
leia-as uma por uma, varias vezes**

(Point to each of the letters and syllables and read them one by one, several times).

In Urdu, short vowel sounds are represented by three diacritics (زیر، زیر، پیش) and long vowel sounds are represented by the four letters ا، ی، ے، و. Most programs teach the four long vowels alongside or before teaching different consonants, so that the associated ارکان (letter combinations), e.g., با، بو، بی، بے can be taught in conjunction with the letter (in this case ب). This ensures that students can begin reading and understanding simple words containing these letter combinations, as soon as each consonant is taught. It is important to note that these consonant-vowel combinations often include different forms of the letter (recall that, in Urdu, the letters might change their shape, depending on their position in the word). For example, the letter name پ is different from its آدھی اشکال (aadhi ashkaal, meaning half shapes) پ / پ / پ (from right to left: initial/medial/final positions). As such, the letter combinations are only taught once an understanding of the basic (isolated) alphabetic form of the letter and associated letter sound has been established. In the USAID PRP Grade 1 Lesson Plans, for instance, students will typically spend between three to six lessons per letter (including the letter combinations) (USAID, 2013a). Additionally, since short vowel sounds are denoted by diacritics, most programs will usually introduce them later in the year. While this approach is different from English (where short vowels are introduced before long vowels), the underlying principle of simplicity before complexity applies here as well, with the difference in order existing only due to the distinctions between the two languages.

When kids pronounce in their dialect, the teacher should use the students' pronunciation (at least initially) so they see the proper correspondence between letter and sound. Often children speak a dialect that varies from the standard form in a society. Dialects complicate the matching of sounds to letters and decoding (Puranik, Branum-Martin, & Washington, 2019). If children pronounce words differently than the teacher, then the sounds the teacher is emphasizing will be potentially confusing. Remember, the point of these lessons is to teach the students to translate print to speech. Because of this, the teacher should match the letters to the sounds as students pronounce them. For example, in some English language dialects, students in their oral language may pronounce the word *cold* as *code*; in another, they might pronounce the word *l* as /*õ*/, like the vowel sound in *hot*. The students are not confusing the meanings of the words *code* and *cold*, but in their dialect these words are homophones (they have the same pronunciation). When teaching these students to read words like *l* and *cold*, the teacher should, for the time being at least, accept their usual pronunciations. If a student usually pronounces *cold* as *code* in the oral language of that community, then decoding the letters c-o-l-d as *code*, should allow the student to decode from print to meaning.

>Decoding

Now it is time to teach children to decode. Once children are adept with the individual letters and sounds, it is time to teach them to recognize common spelling patterns and to sound out and spell words. The English language is thought of as being not very transparent; that is, the letter and sound matchings are complex and seemingly inconsistent. This is certainly true if one treats words as the key spelling or pronunciation unit of a language. However, in English there is much greater spelling consistency within syllables, and the positioning of a letter or spelling pattern within a syllable accounts for a good deal of the complexity. For example, the following item has long been used to mock English spelling:

ghoti = /f/-/i/-/sh/

The idea that *ghoti* spells “fish” is based on the *gh* from *enough*, the *o* in *women*, and the *ti* in *nation*. The problem with this item is that it ignores some important conditions of English spelling patterns. The *gh* spelling of the /f/ sound never appears at the beginning of a syllable in English, only at the end. The use of *o* to spell the /i/ sound only occurs once in the English language, in the word *women*. And, the *ti*, if it is to be pronounced as /sh/ must be combined with the *on*, as in words like *nation* or *station*. Ultimately,

the sounds that we associate with a letter or spelling pattern will be determined by the word context in which it appears, so it is important to consider the position in the word and the letters that surround it.

Languages differ in the transparency of their sound-symbol relationships. As demonstrated, English is not particularly transparent. First, is the fact that there are 44 phonemes in the English language and only 26 letters to represent them. To make this system work, some letters must be combined to represent a single sound (e.g., /sh/, /ch/, /th/) or some letters must be associated with more than one sound. Second, it is an old language and some of the original early spellings have been retained through periods of reform. A word like *of* is inconsistent with the rest of the language (it is the only word in which *f* is associated with the /v/ sound). Third, English is an open language, and it has borrowed many words from other languages, sometimes carrying over their very un-English spellings (e.g., *utensils*, *catalogue*). Fourth, and most importantly, English spellings tend to preserve morphological units or meanings of the words (Venezky, 1967), rather than the pronunciation units. Spellings may be more indicative of what a word means than how it is pronounced. An example of this is *sane* and *sanity*. The vowel *a* is associated with the long /ā/ in the first word and with the short /ă/ in the second despite the same letter representing those phonemes in both words. A system that is fully transparent in terms of phonology would spell these sounds differently since they are not pronounced the same. However, in English the spellings are the same, highlighting the shared meaning across the two pronunciations. Another example, a frequent one in early reading instruction, is the plural marker *s* in words like *cats* and *dogs*. In both words the *s* signals the meaning “more than one” though native English speakers will pronounce those as /s/ and /ʒ/ despite their identical spelling.

Portuguese has its own complexities. First, there are two types of vowel sounds: oral (e.g., *a*, *e*, *i*, *o*, *u*) and nasal, with *tildes* on the vowels (e.g., *ã*, *õ*). Although the vowels tend to have the same sound, the tones can change if the words have accents (e.g., *á*, *ó*, *é*, *ê*, *ú*, *à*). Some of these accents make the vowel sound more closed and others change the tone into a high or low tone. Overall, however, vowels in Portuguese are more transparent than they are in English because all vowels say or tend to say their name when pronounced in words. Consonants can also pose challenges to learners. An example is the letter *r*; if found at the beginning of a word, it should be pronounced as a ‘hard’ *r* (closer to an *h* sound in Brazil) but pronounced as a ‘soft’ *r* if found in the middle of the word. If a double *R* is found in the middle of a word, it should be pronounced the same way we would an *R* found at the beginning of a word.

In a similar manner, Urdu’s intricate linguistic history also makes it a complex language to learn. Historically, Urdu comes to us mainly from the sub-regional language of the Delhi area, and was influenced by the Kauravi, Hariyanvi, Punjabi, Rajasthani, and Braj languages, and has Arabic, Persian, and Turkish features, carried over to the region by the Mughals. The historical development of the language has several phonological and orthographic consequences. First, Urdu has retained both the Indo-Aryan differentiation between aspirated and unaspirated consonants, e.g., the difference between *کل* (*kal*, meaning yesterday) and *کھال* (*khaal*, meaning animal skin/hide); and the Indo-Aryan feature of retroflexion, e.g., *ٹوٹا* (*tota*, meaning parrot) versus *ٹوٹا* (*tota*, meaning piece) (Kachru, 2008). Second, two of the vowels also act as consonants, i.e., the letter *و* denotes the consonant /v/, in addition to the vowels /o/ and /au/, and the letter *ی* represents the vowel sound /i:/ and the consonant /y/ as evidenced by the word *ووٹ* (*vote*), where the first *و* denotes a consonant sound while the second one acts like a vowel (Rao et al., 2010). Third, because it is written in a modified Arabic script, Urdu also possesses the graphemic complexity of the Arabic language.

How can teachers approach the teaching of complex spelling patterns? Often, we will teach some of the simplest and most consistent spelling patterns along with the letters and sounds the curriculum already discussed (e.g., *sh*, *th*, *ch* in English). But what about more complex spelling patterns? There

are basically two ways these can be sequenced. One is to delay introducing any until students have mastered all the single letter-phoneme correspondences. Another possibility is to introduce 4 consonants and 1 vowel, and then to begin working with some of the common English spelling patterns, like the consonant-vowel (CV) pattern in words like *be*, *me*, *go*, and *hi*, or the CVC pattern in words like *bat*, *dot*, *hit*, *hum*, *met*. If the first five letters introduced were *b*, *m*, *s*, *t*, *a*, then students could start reading and writing simple single syllable words like *it*, *bat*, *mat*, *sat*, *Sam*, and *tab*. As more letters and sounds are introduced the numbers of words the students can read will burgeon. This latter approach – alternating between letter/sound instruction and decoding instruction – is recommended. Again, as with PA and letter/sound teaching, instruction can be divided evenly between letter/sound work and decoding, until the letter/sound teaching is completed.

Students should be taught that the same letters sometimes sound different in different words.

Students must come to recognize a spelling pattern and provide an approximate pronunciation of the word or syllable that pattern represents. Because of the complexity of the English language, a particular pattern will not always lead consistently to a particular pronunciation. For example, the CV spelling pattern often results in a long vowel phoneme (that is, it will say its name). This is true in many two letter words (e.g., *go*, *me*, *be*, *hi*), as well as in syllables within longer words (e.g., *defend*, *recite*, *moment*, *relate*). But not all CV spellings work that way (e.g., *do*, *to*, *ha*, *Ma*, *magic*, *tablet*, *petal*). Most English spelling generalizations have some of these kinds of pronunciation exceptions. Likewise, in Urdu, the omission of the diacritic marks (denoting short vowels) from typical writing can result in words that are written the same but have different meanings and pronunciations; for example, *سلا* without the diacritic can be read as *sila* (meaning sewn) or *sula* (meaning put to sleep) (Rao et al., 2010). In Portuguese, the vowel sounds do not change as much as in the English language. They can change from a ‘nasal’ to ‘oral’ sound depending on the accents used in each word. For instance, when reading the word *pão* (bread) the vowel *a* has a nasal sound that comes out of the nasal passage and the mouth. The word *pau* (stick), on the other hand, has an oral sound that comes out of the mouth only. And just like in English, some consonants sound different when combined with certain vowels. For example, the sound of the consonants *c* and *g* in words will differ depending on the vowels that follow them (see Table 2). Learning these spelling patterns helps the learner understand how the sounds of letters can change in words.

Table 2. Consonant sounds change when combined with different vowels (Portuguese vs. English)

| English | | Portuguese | |
|---------------|------------------|---------------|------------------|
| Soft G (e, i) | Hard G (a, o, u) | Soft G (e, i) | Hard G (a, o, u) |
| Gentle | Gate | Gema | Gato |
| Giant | Got | Girafa | Gota |
| | Gut | | Guloso |

That means it is important for students to begin developing cognitive flexibility with decoding early in the process. Students should not be taught that these patterns are rules to be followed in all cases. Instead, they provide readers with a starting point. If the initial pronunciation does not

lead to a word, the students should be prepared to try out an alternative (Cartwright, et al, 2020; Gibson & Levin, 1975). That means when students see a word like *magic*, they should try the most common pronunciation (*may-gic*), but since that is not a word, then they should try out an alternative pronunciation.

It is best to teach kids to decode single syllable words first and then progress to multiple syllable words. Teaching students how to decode words from print to speech requires that they recognize a pattern when they see it, connect that pattern to a sound or series of sounds in memory to “sound out” the word, and then recognize whether that pronunciation is of a meaningful word or whether another try is needed. Usually, it is best to begin reading instruction with simple, single-syllable words and over time teach students to generalize these skills to multisyllable words (that means they do not have to take on the complexity of syllabication while they are still learning the basics of the process). Recognizing whether a word fits a particular spelling generalization (e.g., CV, CVC, CVCe, CVVC) visually is easy. Exercises to practice this can be provided with board work, worksheets, or word cards. Learning to sound the words is more demanding and will require greater teacher involvement in guiding the process. Research suggests that rather than having students converting each letter to a grapheme individually, it is better to guide them to use “connected phonation” (Gonzalez-Frey & Ehri, 2021). That means that instead of having students convert the printed word *pan* into /p/ - /ă/ - /n/ and then trying to blend those sounds back together, it is better to have the student try to pronounce the sounds like this: *paanaannnn*, with no breaks between the phonemes. Teachers should model this process and then provide students with lots of practice sounding out single syllable words and nonsense syllables.

There are many common spelling generalizations and patterns that can be taught for English reading. Tables 7, 7.1, and 7.2 (see Appendix) provide a listing of some of the most common phonics generalizations that are usually included in effective programs in English, Urdu and Portuguese. Table 8 (see Appendix) provides a listing of some of the most common spelling patterns that fit these generalizations in English. These patterns are often described as “word families,” since simply changing their initial consonants leads to the creation of new words. Word families do not all need to be taught either explicitly or separately. They do not all necessarily need to be taught explicitly because as students learn words and patterns, they will often make these generalizations themselves. They do not all need to be taught separately either, since many of them follow the same common generalizations. If, for instance, you teach students the CVVC pattern, then *aim*, *eam*, *oam* can all be taught together.

Instruction should continue with a generalization or pattern until children can easily recognize and pronounce spellings that fit that pattern and can translate pronunciations into written spelling. Some generalizations are more complex or harder to learn than others, but together with the phonemic awareness and letter and sound instruction already noted, it will take roughly 3 years of instruction to cover this fully and effectively for an average student. Advanced students may be accorded more independent reading, writing, and spelling time since they should not need as much of this kind of instructional support, and some students will likely need more of it, continuing on beyond these first three years of schooling. Once the most common vowel patterns are mastered (CV, CVC, CVCe, CVVC in the case of English), then students profitably can be taught to break words into syllables for decoding and to take on more unusual spelling patterns. Decoding instruction should teach students to recognize these generalizations and patterns and to use them to read and write words.

A decoding lesson might include the following steps in this sequence:

- 1 **Visual introduction of the spelling pattern, with teacher explanation of how it works.** “Look at this word. The first letter is a consonant. The letter in the middle is a vowel. The last letter is a consonant. When you see words like that, that have a consonant, vowel, consonant. The vowel will make its short sound. Let’s sound this word out.”
- 2 **Practice recognizing the visual pattern.** The teacher provides examples of words that have the CVC pattern and words that do not, and the students identify which ones are CVCs. They also may practice identifying such words in text by underlining them.
- 3 **Practice sounding out CVC words and nonsense syllables.** The teacher demonstrates how to sound out a CVC word and then introduces such words, with the children reading them aloud chorally and individually.
- 4 **Practice reading CVC words in text.** The teacher can provide sentences that have CVC words in them, and the children try to read the sentences aloud. If “decodable text” is available (that is, text that is written to provide students with concentrated practice with a particular phonic element or pattern), this may be useful. Either way, have the students reading these aloud to each other and the teacher.
- 5 **Writing/spelling.** Explain to the students that they can write CVC words, too. Demonstrate how to go from sounds to spelling, and then provide some guided practice in which students try to write the words that the teacher says. Circulate among the group to see how students are doing and provide added guidance as appropriate. When students can write individual words that follow the pattern, provide dictation practice in which they try to transcribe dictated sentences that include one or more words with this pattern.

Such lessons can profitably go on for a 15–30-minute duration.

As students become more skilled with decoding, it is useful to teach syllabication—how to divide words into syllables. Typically, during the first year of instruction, there would be no use for syllabication (Doignon-Camus & Zagar, 2014). However, as students become more skilled in decoding and they can read and work with more complex vocabulary, two and three syllable words will appear more often. It can be helpful to provide a small amount of syllabication instruction at that point, showing students how to divide words into syllables to facilitate decoding. As previously noted, it is important that students see these syllabication steps as being conditional rather than hard-and-fast rules. Table 3 includes a set of guidelines students can use to break words into syllables in English.

Table 3. Syllabication guidance for English

| Guidance | Examples |
|--|---------------------------------------|
| When there are two consonants between two vowels, divide between the consonants. | win/dow, let/ter |
| When there is only one consonant between two vowels, divide before the consonant. | ti/ger, spi/der |
| Most words ending in LE put the preceding consonant with the LE. | sim/ple, lit/tle |
| Separate prefixes (e.g., un, pre, anti) and suffixes (e.g., ed, ing, able) from the root word. | runn/ing, un/tie, pre/school |
| Certain letters are not separated for syllabication (including consonant blends like br, tw, pl) and vowel digraphs (e.g., ai, ou, ew) | tail, cough, flew, broke, twice, play |

The purpose of decoding instruction is for students to, with time, read all words “on sight.”

When students first start to learn to decode, reading words is laborious and it is usual that children quickly forget words that they have seemingly memorized. The purpose of decoding instruction is not so much so that students can sound out words – that is not how the reading process works ultimately – but to transform most words into what is referred to as “sight vocabulary.” A sight word is a word that a reader can read rapidly, seemingly without any sounding or other mediation. It appears that these words have been memorized and recognized, and it is possible to memorize words like that. However, as students learn to decode, they will reach a point where all or most words appear to be “sight words” even if students have never seen those words before or have only seen them once or twice. The more easily students read words they have not seen before or the more durable their memories for words briefly encountered, the more certain you can be that the decoding instruction is working.



Resource Box

Phonics Instructions

The following are links to free information about phonics instruction and materials that can be used to help teach students letters, sounds, and decoding.

- Reading Bear. www.readingbear.org.
- Institute of Education Sciences (2016). *Foundational Skills to Support Reading for Understanding in Kindergarten Through 3rd Grade*. NCEE 2016-4008. U.S. Department of Education.
- National Research Council. (1999). *Starting Out Right: A Guide to Promoting Children’s Reading Success*. The National Academies Press

>High Frequency Words

Common words can have atypical spellings, but they still follow some phonics rules; therefore, teachers should use phonics before memorization to teach them. When it comes to words, the English language is highly redundant. Three hundred words and their derivatives account for approximately 50% of the words that one sees in text. This has misled some to assume that reading can be taught mainly through memorization. That is not the case. However, it is not unreasonable to teach some of these high frequency words early on to accelerate student progress and to enable them to read texts and not just words. Most of these high frequency words are quite consistent with the spelling patterns taught in phonics, so there is no reason to resort to memorization (unless you want to introduce some of them prior to teaching the skills needed to read those words). Even those high frequency words that are not entirely consistent with simple decoding patterns are at least partially so. In English, the ee in the middle of *been* is not a typical spelling of that sound, but both the *b* and *n* in that word are. Even when memorization is the approach to be taken for some words, instruction should still guide students to analyze the letters and sounds of the words as the key to that memorization. These principles apply across languages. In Urdu, most of the high frequency words also follow the general phonetic rules, e.g., میرا (mine), often taught as a sight word, can easily be taught phonetically: /m/ + /e:/ + /r/ + /a:/). Another example is the word نہیں (no). Because this word contains diacritic marks, it is often taught to students as a sight word prior to students being taught about

diacritics. Nonetheless, with knowledge of the diacritic marks, this word can also be taught phonetically: ɫ + ɪ + ˈ + ɔ̃ (/n/ + /ə/ + /h/ + /i:/). In Portuguese, high frequency words also follow basic spelling rules or patterns. One thing to look out for are words with accents such as *não* (no), *mão* (hand), *mãe* (mother), and *é* (is) because the vowel sounds can change from nasal to oral.

When teaching phonics, don't use pictures but instead have children visualize spellings briefly. To teach a word to students it is important to have them look carefully at the word (avoid using pictures when introducing words since it distracts attention from the sequence of letters). One way to guide student attention is to have them spell the word or try to visualize it with their eyes closed or with the word removed. It is reasonable to have students sound out the word, intervening as necessary to help with the unusual spellings. No more than 5 minutes per day should be spent on this kind of activity. Beyond this introduction, learning high frequency words requires repetition and practice.

Students will learn common words relatively quickly, but should also be learning to read hundreds of other words through decoding. The three hundred most frequent words in written English are listed in Table 9 (see Appendix) (Fry, 1980). There are no research-based guidelines for how quickly students should learn these words, but expert opinion suggests that students should master 15-20 of the first hundred by the end of the first year of instruction, the first hundred by the end of year two, and all 300 by the end of the third year (Burns, Griffin, & Snow, 1999). It is important to understand that these numbers refer only to high frequency words. Children should be learning to read literally hundreds of other words through decoding alone. Decoding instruction should enable the reading of words that have not been introduced, should speed up acquisition of words that are taught explicitly, and should improve student long term memory for these words.

>Text Reading Fluency

Kids do not easily progress to fluent, proficient reading: they need to practice guided reading. It is not enough that students be able to read word lists. They need to read text fluently. Studies have shown that the ability to read lists of words proficiently is not as closely correlated with reading comprehension as is the ability to read text fluently (Jenkins, et al, 2003). To read a text fluently, the reader must read the words in text accurately, with automaticity (which is usually measured by the speed with which the reader can translate print to oral language) and with appropriate expression (e.g., pausing in ways consistent with punctuation and meaning). When proficient readers read text, their eyes move from word to word but the words they are saying at any point are not the ones they are looking at right then. This gap is referred to as the eye-voice span and it demonstrates the importance of automaticity. Proficient readers collect information from the page with their eyes while their brain is interpreting the information previously sent by this route (Seidenberg, 2017). But that is how it works with proficient readers. For beginning readers, text reading is more cumbersome. It largely takes place one or two words at a time since they are not yet adept and efficient at orchestrating those processes. Accordingly, in these early grades, it is essential both to teach decoding explicitly and to engage students in guided oral reading practice. Oral reading fluency may be thought of as a kind of bridge between decoding and comprehension. Research shows that engaging students in oral reading practice with feedback (from a listener) and repetition (reading text 2-3 times or until it can be read fluently) has a powerful impact on learning (Kuhn & Stahl, 2003; National Reading Panel, 2000).

Students need to read enough words to start practicing fluency; at that point, teachers should model what fluency sounds like. Students cannot practice oral reading profitably until they can read enough words. For most children, fluency instruction would not be introduced until after a year or 18 months of reading instruction. At that point, the teacher should explain to the students what fluency is, demonstrating by reading a text aloud. Then, the teacher can model examples of disfluent reading, having the students identify what was wrong. Some of the behaviors that can be revealed this way

include reading too slowly or too fast, reading too choppy, miscalling words without going back to correct the errors, skipping words, ignoring punctuation, and so on. The idea is to develop a clear concept of what fluent reading should sound like so that the students understand what they are trying to accomplish.

Choral reading with very familiar texts is a good way to start practice in oral reading fluency.

Next, engage the class in choral reading, with the teacher and all the students reading text in unison. Initially, it is a good idea to start with patterned or predictable texts (e.g., “Brown bear, brown bear, what do you see? I see a yellow duck looking at me. Yellow duck, yellow duck, what do you see?”), or with texts the students may have already memorized (e.g., songs, nursery rhymes, poems). It is best if all students have individual copies of a text to follow along. Some teachers prefer to read the text through aloud once to the class before the children take part. Then on the first go-round with the students, the teacher reads loudly enough that the children can easily follow along. On a second choral reading of the same text, the teacher lowers his or her voice to get the children to do more of the work. Several days of this kind of practice with different texts should be enough to get the students started. Over that period, the teacher can shift this practice from predictable or memorized texts to texts that require readers to figure out the words primarily through decoding.

After doing some choral reading, start to use approaches where children do some individual oral reading. At that point, it makes sense to employ approaches that shift more of the reading responsibility to the individual children. One way to do this is through paired reading, in which students are paired up and take turns being either reader or listener. The reader reads a page or a paragraph aloud. If the reader has difficulty with a word, the partner tries to help. If the reading does not sound fluent, the partner is to ask the reader to read it again. This repetition is important in helping children develop fluency. After the reading, the partners switch, and the listener takes a turn as the reader. Some teachers like to add some emphasis on reading comprehension to this, having the listener summarize the text or providing a question for the students to try to answer.

Choral reading is better than “round robin reading” where only one student reads at a time. Often teachers try to provide this oral reading practice through what is called “round robin reading” in which individual children take turns reading a brief section of text aloud to the classroom. This approach should be strongly discouraged, however, since it severely limits the amount of individual oral reading practice that children receive. Choral reading (reading while listening) and paired reading are much more powerful and efficient.

Teachers should be active participants in paired reading activities, moving from pair to pair. During paired reading, it is very important that the teacher be an active participant, moving from pair to pair to monitor success. Some partners are not especially good coaches and will not help their partner or have them reread. The teacher can intervene in such cases both requiring the rereading and giving the lax partners more guidance as to their role. It is a good idea to provide each pair with paper and pencil to record words they could not figure out. These oral reading sessions can conclude with decoding guidance to help with those unknown words. Over time, the students should improve in their accuracy and speed of reading (not hurrying but reading closer to the levels that average readers attain). Table 4 provides normative data to showing the numbers of words students can read accurately per minute if they are on track for success. By the end of the second year of schooling, students should be able to read grade level text aloud accurately at about 60 words per minute and by the end of the third year at about 100 words per minute. Students who are lagging in this skill should be given more opportunity to read aloud with repetition and students who are excelling beyond these indicators could spend time engaged in more independent silent reading and writing activities.

Table 4. Average number of words read correctly per minute by students

| Year | Beginning of Year | Mid-Year | End of Year |
|------|-------------------|----------|-------------|
| 2 | -- | 29 | 60 |
| 3 | 50 | 84 | 100 |

>Summary of Word Reading

Reading requires both the ability to decode text (that is, to translate print to pronunciation) and to understand the meaning of that text. This section provided specific instructional guidance for how to teach students to read words and texts fluently. At the start, students require instruction in both phonemic awareness and letters and sounds, dividing time between them. Once phonemic awareness instruction is completed and students know the sounds for several letters, then decoding can be introduced. When students know all the letters and sounds, then fluency instruction is introduced, and the word recognition time can be divided between explicit decoding instruction and oral reading fluency practice. By the end of these first three years, the children will not know everything about word reading, but they should be well on their way to proficiency – reading grade level texts accurately at about 100 words per minute.

Key points about word reading curriculum:

- Students must learn to perceive the sounds within words (phonemes) to the point at which they can fully segment words (separate all the individual sounds of a word) and blend individual sounds together to pronounce words.
- Phonemic awareness should be taught simultaneously with letters.
- Teaching letters should include developing student ability to recognize and name the letters, to associate the letters with their most common sounds, and to print the letters.
- When students know several letters and sounds, they can begin to learn to sound out words.
- Decoding instruction should focus on frequently occurring spelling patterns (in English, this would include CV, CVC, CVCe, CVVC).
- Some words that appear with high frequency may be difficult to decode. In such cases, these words can be memorized. Only a small number of words should be learned in this way.

We have discussed word **reading** and now will turn to **reading comprehension** instruction as if this were a sequence, one following the other. However, in the classroom, instruction in both must proceed simultaneously, with half the daily reading instruction devoted to word reading and the other half to comprehension.

Reading Comprehension

Decoding enables the possibility of comprehension but does not guarantee it will occur. The purpose of reading is, ultimately, to understand an author’s message. Being able to decode from print to language is an essential part of reading as it enables the *possibility* of comprehension. But enabling and guaranteeing are two different things. Just because a student can sound out the words fluently does not mean he or she will grasp the meaning of a text. As the illustration in Figure 2 makes clear, comprehension—which depends upon a variety of skills and abilities—must be closely woven together with word recognition if students are to become proficient readers.

Word recognition skills are largely “constrained,” but comprehension skills, like vocabulary, have no end point. Earlier it was noted that some students may enter school already having gained some of the word reading skills (e.g., letter names, letter sounds). Such learning advantages can reduce the amount of word reading instruction needed. When it comes to reading comprehension, the landscape is different. For example, all children enter school with some oral language development already accomplished, but that should not lead to any reduction in the instructional emphasis on comprehension. The reason for this difference is rooted in the idea of constrained and unconstrained skills (Paris, 2005). Word recognition skills are relatively constrained. For example, there are only 52 letters in the English alphabet (upper and lower case) and in the Portuguese alphabet, while there are up to 58 letters in Urdu (there is no case distinction in Urdu). Once students have learned these letters, there is no more to be done with letter name learning. By comparison, language development and other components of reading comprehension are relatively unconstrained – a person can spend their entire life expanding their vocabulary knowledge, for instance. Given that there is so much to learn when it comes to comprehension, there is no point during these three years at which instruction should be discontinued or reduced.

Comprehension skills improve word recognition skills and vice versa: there is lots of reciprocity and feedback. This paper has drawn a firm line between word recognition and comprehension. It has done this for the sake of clarity and to ensure that all aspects of reading are adequately taught. Nevertheless, reading development is complex and reciprocal. The various parts of reading must integrate with the other parts and teaching one component may affect the learning of another. Phonemic awareness, for example, is affected by vocabulary knowledge. Students who know more words tend to make faster or earlier progress in developing PA (Ouellette, 2006). Other examples of this are the fact that morphology can improve decoding and comprehension work can improve oral reading fluency. Because of this reciprocity or two-way development, it is essential that students receive simultaneous instruction in both word recognition and comprehension skills (Duke & Cartwright, 2021).

Reading comprehension skills include language development, reasoning abilities, domain knowledge and more. What are the skills and abilities of reading comprehension? These include language development (e.g., vocabulary, morphology, syntax, cohesion, discourse structure), thinking/reasoning abilities (e.g., inferencing, analyzing, comparing, evaluating), domain or world knowledge (e.g., knowing information about the world), executive functioning (e.g., self-awareness, planning ability, attentional focus), and knowledge of literacy (e.g., concepts of print, genres, page/book/screen formats).

Much of the development of reading comprehension skills happens through students reading or listening. Because these components of reading comprehension development are not as discrete or separable as the word recognition skills previously described, they must be explored somewhat

differently. With word recognition, each skill set was defined separately, assigned explicit instructional goals, and provided guidance for how to best teach those skills. With reading comprehension – because of the need for greater integration, less explicitly detailed curricular objectives, and the unconstrained nature of these skills – much of the teaching takes place in the context of students listening to or reading stories or articles. The instruction in these abilities is delivered through preparation for reading, questioning the students about text, or having the students read text in particular ways. A lesson might focus heavily on one skill or another, but usually the students will be expected to coordinate several skills simultaneously.

The approach taken here will be to describe reading comprehension as a coherent process, then to describe each set of component abilities. Finally, instructional approaches and routines will be explored.

The Nature of Reading Comprehension

Reading comprehension is the process of extracting and constructing meaning through our interaction with written language. Research has revealed a great deal of what goes on in the mind of readers when they are comprehending text (Duke, Ward, & Pearson, 2021; Nation, Cocksey, Taylor, & Bishop, 2010). The best current definition of reading comprehension indicates that it is a “process of simultaneously extracting and constructing meaning through interaction and involvement with written language” (Snow, 2002). This definition emphasizes the idea that readers must obtain or “extract” the exact message the author coded explicitly into the text, and that they must also draw inferences, make interpretations and connections, disambiguate information, and take other actions that allow the “constructing” of a message based on partial and imperfect information in the text. Look at this brief passage from Roddy Doyle’s “Guess Who’s Coming for Dinner”:

“Larry Linnane liked having daughters. He got great value out of them, great crack. The second kid had been a boy and that was great too, having a son, bringing him to the football – Under 7, Under 8, Under 9, all the way up until Laurence, the son, told him he thought he’d play better if Larry stayed at home.” (Doyle, 2008, p. 1)

The reader who is “extracting” the meaning from this text will learn that Larry Linnane liked being a father of sons and daughters; that his son was named Laurence, that he took him to football games, and that Laurence no longer wanted him to go to those games anymore. Those ideas are all stated explicitly. Good readers will “comprehend” those ideas by extracting them from the text.

Good readers will also “make meaning” based on what can reasonably be inferred. Good readers should comprehend more than that. They will draw inferences based on their background knowledge. It seems likely, for example, that Laurence was named after his father, that he is at least nine-years old, and has an older sister. Either Laurence has reached the age when children are embarrassed by their parents for no specific reason, or perhaps Larry does something during the games that embarrasses young Larry. In either case, Laurence doesn’t seem to want to hurt his father’s feelings—he didn’t say that his father embarrassed him, just that he wanted to play his best (which may be a euphemism for, “Dad, you’re embarrassing me”).

Readers must be able to engage in both meaning extraction and construction to grasp an author’s message adequately. They do this by combining information in a text with the knowledge they bring to the text (“prior knowledge”). That vignette should provide some sense of reading comprehension. But let’s go a little further with this model. According to Walter Kintsch (1998), readers must translate the propositions that are explicitly coded into a text (the “text model”) into what he calls a “situation model,” which is a non-verbal mental representation in the reader’s mind. That situation model is the result of the reader’s processing and interpretation of the text by combining knowledge and text

information. To accomplish that, readers must know certain things.

First, readers must make sense of the word meanings and the relationships among the words.

Vocabulary meaning is of prime importance in comprehension, and readers must also make sense of the relations among the words signaled by the grammar and cohesion. For example, look at this simple text.:

The turtle sat on a log. A fish swam under the log.

To make sense of this pair of sentences, readers must know the meanings of *turtle*, *sit*, *on*, *log*, *fish*, *swim*, and *under*. Additionally, they would need to interpret the syntactic relations, recognizing where the turtle was and where the fish was, as well as that this event had already taken place (past tense of to sit and to swim). Finally, readers would need to recognize the repetition of the word *log* and the use of the articles (*a*, *the*) as signals that the fish had swum under the same log that the turtle was sitting on.

Students must attend to both the microstructure (vocabulary, syntax) and macrostructure (semantic relations with other sections of the text) of what they are reading. This information (vocabulary, syntactic, and cohesive relations) is what Kintsch refers to as the microstructure of the text. But readers must also attend to the macrostructure. Macrostructure refers to the semantic relations that exist among larger sections of text. If those two sentences were part of a larger story, then that story would include settings, characters, and various plot elements. Successful comprehension would require readers to recognize these structural parts and make sense of the connections among them.

Students must also develop a mental representation of what was described by the text. The interpretation of these micro- and macrostructures are essential parts of comprehension. However, the reading comprehension process—developing a “situation model”—requires another step. The reader must develop a mental representation of what was described by the text. This mental image is based partially on text information, but also on prior knowledge. Prior knowledge is the reason why most readers would assume the fish that swam under the log would look more like the fish pictured in Figure C than the one in Figure B.



Figure B



Figure C

Comprehension depends upon the readers' ability to interpret vocabulary, syntax, and structure and combine this with prior knowledge. Texts are incomplete representations of meaning. Authors do not provide complete descriptions of what they write about (Zwaan & Radvansky, 1998). Readers must add imagery, emotion, and even personal experiences to comprehend a text. One can comprehend the “fish-frog story” above with low level semantic knowledge and limited logical analysis, and without developing much of a situation model. However, research shows that such comprehension will be severely limited and short-lived, and inconsistent with the actual interpretations of readers

under normal circumstances. Comprehending (that is, constructing situation models from text and prior knowledge) depends upon the readers' ability to interpret the vocabulary, syntax, cohesion, and discourse structure of the text and then to combine this information with their prior knowledge to represent meaning. This process also requires executive functioning (including making an intentional effort to understand or remember the information), and verbal reasoning (such as drawing inferences or making well-reasoned choices). As should be clear, even in these simple examples, it is difficult to separate out one process from another, and several components are obviously operating in concert.

> **Oral Language Development**

Early oral language abilities influence the development of reading comprehension skills.

Language development plays an important role in comprehension. There is a strong relationship between early language attainment and later reading achievement (National Early Literacy Panel, 2008; Pickering & Garrod, 2013; Shanahan & Lonigan, 2012); and young children's language is clearly implicated in reading comprehension. The relationship of oral language with decoding is significantly lower. Students who were poor comprehenders by the end of their primary grade schooling evidenced weak language skills as early as 15 months of age (Justice, Mashburn, & Petscher, 2013). Students who lag in reading comprehension despite adequate decoding skills have consistently evidenced weaknesses in oral language (Spencer & Wagner, 2018). This pattern is especially evident with students who are learning to read in a second language. Oral language abilities in the second language are determinative of students' reading comprehension ability (Kieffer, 2012; Spencer & Wagner, 2017), and oral language instruction for these students tends to have a bigger impact on reading comprehension (August & Shanahan, 2006).

Oral language can be taught, and improvements in oral language enhance reading comprehension.

Language includes a multiplicity of skills including vocabulary, morphology, syntax, listening comprehension, storytelling ability, and so on. Studies have shown that it is possible to teach oral language, that this can improve these component skills, that these improvements can be long lasting, and that they enhance reading comprehension (Bowers, Kirby, & Deacon, 2010; Bowyer-Crane, et al., 2008; Clarke, Snowling, Truelove, & Hulme, 2010; Fischel & Landry, 2008; National Reading Panel, 2000).

Language development takes place through reading and listening, but also talking, in class.

As noted earlier, most comprehension instruction will take place in the context of text – engaging students in language-relevant listening and reading activities. Those will be discussed in more detail later in this paper. However, there are other things that teachers can do from the beginning to support children's oral language development (Resnick & Snow, 2008). For instance, it is important for children to have opportunities to hear language and to talk in the classroom. It is important that teachers provide a good model of language use, speaking clearly and properly. In whole class work, children can respond to teacher questions, but it is important to provide adequate time for them to formulate answers.

Even better, try strategies like "Turn and Talk;" asking a question, then having the students speaking one-on-one with a peer briefly prior to responding (and for second language learners, carrying on that dialogue in their home language can be a big help). For instance, in one of the sample Urdu lesson plans included in the USAID SRP Reading Manual for Teachers, the Turn and Talk strategy is used as a brainstorming exercise. Students are divided into pairs and asked to discuss their reflections on the question: "if there was no Sun, what would happen?" A slightly different approach is used in the first grade Portuguese lesson featured in Figure 8. When learning about positional words and directions, students are asked to practice the vocabulary they have learned, *esquerda* (left) and *direita* (right) by turning and talking to a partner. In this activity, students are expected to take turns looking at the images and use the vocabulary to describe the direction the fish and the man went.

Figure 8. Providing visual prompts to promote language development in Portuguese

**Vire e fale: Coloque os alunos em pares.
Diga-os para dizerem aos seus parceiros o que veem nas
imagens.**

(Turn and talk: Put students in pairs. Tell them to tell their partners what they see in the pictures).



*A: Revezando-se dizem, “O Pepe foi para a esquerda. O Peixe foi para a direita.
(Taking turns they say, “Pepe went **to the left**. The fish went **to the right**.”)*

Source: Lesson plan produced by World Bank staff for use in Lusophone countries

Guide students to engage in various partner and small group activities as this can also increase the amount of student talk. Opportunities for imaginative play during the first year of schooling can be beneficial, as it generates social discussion. Teachers when interacting verbally with young children should show interest through attention and facial expressions that encourage them to continue talking. If the children make a mistake, correct them gently. For instance, if a child says, “We goed to the market,” respond, “You and your mom went to the market?” These language encouraging routines can be used throughout the school day, not just during reading instruction and none require that special time be devoted to them in the classroom (except in those cases when children are learning a second language – then time dedicated to studying the language being learned is beneficial).

>Verbal Reasoning

Verbal reasoning can be taught but it is not so important in the first texts students read. Reading comprehension obviously requires cognitive processing, specifically verbal reasoning (Castles, Rastle, & Nation, 2018). Comprehension requires inferencing and the analysis or integration of information (Elleman, 2017), and these abilities can be taught. Inferences typically require the connecting of information across text or adding relevant information based on prior knowledge. For example:

Text connection: John and Mary went to the movies. They ate popcorn.

Knowledge connection: Mary was going to go to the party. Then she got sick.
(Mary probably will not go to the party.)

The analysis or integration of information includes the ability to organize, compare, contrast, and evaluate information. However, the texts that young readers are expected to read tend not to be particularly complex or demanding in terms of the cognitive processing required. The role of verbal reasoning in reading comprehension becomes increasingly important as students advance up the grades and

confront more extensive and complicated texts. Throughout their developments, students will largely learn to apply these cognitive skills through their guided interactions with text.

>Domain Knowledge

Children need background knowledge in the domain they are reading about—knowledge that must be taught. Reading comprehension depends upon readers’ knowledge of the domain they are reading about or general knowledge of the world (Willingham, 2017). The combination of text information with the knowledge that readers already possess is so central to the act of reading – remember Kintsch’s situation model – that reading has been defined as “building bridges between the new and the known” (Pearson & Johnson, 1984). Given this, to foster proficient reading comprehension, it is essential that children’s schooling increases their academic knowledge. As important as reading instruction is, it is also vital that we increase children’s knowledge of their social and natural worlds. That means instruction in the sciences, the arts, and social studies need real emphasis.

The USAID SRP Reading Manual for Teachers (Urdu) outlines the “K-W-L” strategy as a means to activate prior knowledge before reading non-fiction texts (USAID, n.d.). According to this strategy, the teacher begins by drawing a table with three columns labelled: میں کیا جانتا/جانتی ہوں [What I Know (K)], میں کیا جانا چاہتا/چاہتی ہوں [What I Want to Know (W)], and میں کیا جان چکا/چکی ہوں [What I Learnt (L)]. Drawing the students’ attention to the first column, the teacher asks them questions about the topic to activate their prior knowledge. For example, before reading about seasons, students might already know the names of the four seasons in Urdu and some changes in lifestyle resulting from changing seasons (e.g., we wear warmer clothes in winter). The teacher notes down all student responses in the first column. The teacher, then, moves on to the second column and asks students what more they want to know about the topic and writes down their responses. Lastly, after reading the text aloud to the students or asking them to read it independently, the teacher asks them what they learned from the text and whether they were able to answer their earlier questions, and fills out the third column.

Some of this knowledge is taught through reading, using high-quality texts with worthwhile content. Teaching information about the world is not a specific reading intervention, and it would not make sense to replace reading instruction with such content teaching. However, the listening and reading activities that are central to reading comprehension instruction are a valuable opportunity for students to gain information about the world. Teachers should teach reading with texts that are worth reading – texts with worthwhile content and high literary quality. At the end of reading comprehension lessons, it is not enough that the students will have gained the vocabulary or the reading strategy that the lesson emphasized; they should also carry away knowledge from the text read in the lesson.

>Executive Functioning

Executive control refers to the management of cognitive processes during reading comprehension. Our systems of executive control determine our purposes, what we will focus our attention on, what we will try to remember, how much effort to expend, and so on (Butterfuss & Kendeou, 2018). Reading comprehension is an intentional act. It is possible for readers to identify words or to read a text with fluency but with no understanding. This especially happens with young readers who get enraptured by their ability to skillfully identify words. That can be satisfying in and of itself. However, readers must learn to seek meaning when they read. Even when students are reading texts to practice decoding or oral reading fluency, have them answer questions or discuss the text content to keep them focused on meaning. For example, in one USAID Grade 2 PRP Lesson Plan in Urdu, the teacher divides students into pairs and asks them to read a paragraph from their workbooks. As students are reading, the teacher walks around the classroom and assists those who might need support. The teacher then asks the students to identify and draw circles around words containing the aspirated consonants **پ** or **پھ** in the text. Finally, the teacher asks several reading comprehension questions related to the text, e.g. How old is Sarmad? Why did everyone start laughing? (USAID, 2013b).

Metacognition—one aspect of executive control—allows readers to monitor their comprehension.

One particularly important aspect of executive control is metacognition. Metacognition refers to the awareness and regulation of one’s own thought processes (Flavell, 1979). Metacognition (or thinking about thinking) allows readers to monitor their comprehension—and when it isn’t satisfactory, to adjust their approach to the text. Perhaps readers will conclude that they do not know the meaning of a particular word and will look it up in a dictionary or try re-reading with more focused attention. Readers might decide that given the importance or difficulty of a text they will read it more carefully than usual, slowing their speed, or summarizing each section. Those kinds of intentional cognitive actions are the province of metacognition.

Self-monitoring strategies (summarizing, asking questions, visualizing) help comprehension.

Research has identified several strategies that readers might use to better engage with a text or to focus attention on certain kinds of information. These strategies have been found to be effective even in the early grades (National Reading Panel, 2000; Shanahan, et al., 2010). Strategies such as having students summarize what they are reading, asking themselves questions about the text (and answering those questions), visualizing the information, and so on are all beneficial to reading comprehension – improving reading performance not just with the practice texts, but generalizing to other reading as well. For example, in several USAID PRP Grade 1 Big Books in Urdu, once the book has been read aloud to the students, the teacher divides them into pairs and asks them to retell the story, in their own words, to their partner (USAID, 2017). Similarly, in a USAID Grade 2 Levelled Reader (supplementary books to be read independently by students), titled *کرن ہوں میں* (*I am Kiran*), the teacher walks around the class and asks students factual, inferential, and preference-based questions about the text that they are reading, for instance: “What is this story about?” “Do you think the bird was happy in her environment? Give reasons to support your answer.” “What was your favorite part of the story and why?” (USAID, 2018). An example of visualization is seen in a first-grade lesson used in Ceará, Brazil (Simonetti, 2018). After reading a story with students, the teacher asks them to make an illustration to demonstrate their understanding of the story. Visualizing is a strategy in which the reader reads, creates a mental image of the story, and then draws a picture of their mental image to show their understanding.

>Literacy Knowledge

Literacy knowledge (such as how print works, punctuation, spacing) also unlock comprehension.

One last area of comprehension development are those skills and knowledge specific to literacy itself. Young children, for instance, need to develop concepts of print (National Early Literacy Panel, 2008). This refers to the understanding of how print “works.” Children, for example, may start out thinking that it is the illustrations that tell a story, and they must learn to redirect their attention to the words instead. Other examples include the fact that English text is read from left-to-right, with a return sweep at the end of the lines of print, and proceeds from the top of the page to the bottom. At the end of a page, we turn pages from right to left, and words are separated by spaces. Punctuation signals how text should be read but it is not read itself. Concepts of print differ by language. For instance, Urdu text is read from right to left, proceeding from top to bottom, but with numbers and embedded left-to-right language text (e.g., English acronyms) being read from left to right; at the end of a page, Urdu readers turn pages from left to right. Letters can take on shapes that are different from their base/ isolated form, depending on their position in a word. Urdu primarily uses Arabic punctuation, e.g., a reversed question mark, ؟.

Genre is another literacy concept that helps comprehension; genres vary in purpose and form.

Genre is another significant literacy concept (Duke & Purcell-Gates, 2003). Stories and poems differ and these both diverge in important ways from the expository or explanatory style of informational texts. Different types of texts need to be read differently because they have different purposes (e.g., to entertain, to inform, to persuade), different truth values (e.g., fiction vs. fact), different text structures

(e.g., story sequence vs. enumeration or problem-solution), and they present text information differently (such as the different ways they may be illustrated). These kinds of literacy concepts or insights are valuable to readers, and they carry valuable cues about how best to go about reading and making sense of a text.

Principles of Reading Comprehension Instruction

Reading comprehension instruction centers around texts, whether they are read or listened to.

Reading comprehension instruction focuses on teaching oral language, verbal reasoning, domain knowledge, executive functioning, and literacy concepts in the context of making sense of texts – both extracting and constructing ideas from the texts. How does this instruction best proceed? These abilities tend to emerge from students’ attempts to read text and from teacher support during these student-text interactions. These supports include preparation for reading, follow up discussions of the text, as well as related exercises or assignments. The central factor of this work is the texts – their content, format, language complexity, speed of vocabulary introduction, and so on. Texts affect comprehension learning whether they are read aloud to the children or the children themselves do the reading. Let’s turn attention first to those texts, and then to the activities and teaching that should accompany them.

Two types of texts are needed: those read by the teacher and those the kids read by themselves. To simplify things, let’s say there are two types of books for teaching reading comprehension during the first few years of schooling. There is a need for books that will be read to the children by the teacher (“shared reading”) and books that the children will try to read themselves with teacher support (“guided or directed reading”). These books are used for different purposes and perhaps they will be used at different points in the children’s schooling. Most children cannot yet read when they begin school, so initially – while children are developing beginning decoding skills – any texts will have to be read by the teachers to support language development, increase world knowledge, expose students to literacy knowledge, and explore and begin developing relevant executive function and verbal reasoning abilities. Once children have sufficient decoding skills to allow them to do the reading themselves, a very different kind of text – a simpler text – is needed. In some classrooms, teachers may choose to discontinue reading to the children at that point. However, it is recommended that teachers continue to find time to read books that exceed the children’s reading skills throughout these first three years of schooling (Lonigan, Shanahan, & Cunningham, 2008).

While children are learning to decode, teachers should read to kids to promote comprehension.

When children enter school, they are unlikely to be reading, though they will have had the benefit of several years of oral language development. The key to translating those oral language skills into literacy depends upon decoding. While that early decoding work is being done, comprehension instruction should focus on texts that teachers will read to the children. Research reveals that some of the most effective approaches for improving children’s oral language development depend upon shared reading (Lonigan, Shanahan, & Cunningham, 2008). One reason for this is because of the relative linguistic complexity of children’s books when compared to typical adult language. Children being read to are three times more likely to hear unusual words than they would if adults were only speaking to them (Massaro, 2017). Texts also have the benefit of being highly repeatable; one can read and reread a book over and over, reinforcing any learning that may be derived from it.

Books teachers read to children need not be “decodable”: they can contain rich language. Because these books are to be read by the teacher, decoding difficulty is not a selection factor. It is only important that the books appeal to the children, that they expose them to rich language (i.e., they could stimulate further language growth), and that they provide useful information (i.e., they could increase children’s domain knowledge).

Books that children read themselves should be simple at first. The second type of books are those to be used for guided or directed reading activities. These books will be read by the children themselves with a teacher’s guidance and support. These books must be easy enough to allow the children to do the necessary decoding, and these texts should increase in difficulty gradually over these three years. Unfortunately, there are no hard and fast rules about what constitutes a first year, second year, or third year text (Fitzgerald, et al, 2015). Starting out, the texts should be simple stories and informational texts that deal with content and language with which the children are already somewhat familiar.

These books should increase in difficulty progressively over 3 years. By the end of the three years, the texts can include a wider range of stories (realistic and fantasy) as well as informational texts that introduce unfamiliar concepts. Beginning selections should be brief (perhaps with as few as 15-20 words) and by the end of the third year of instruction, a selection might include 700-800 words. Likewise, the words included will be less familiar and more complex. For instance, during the first year the texts that students read themselves will include mainly words already in the children’s vocabulary, with a high concentration of high frequency words, and single syllable words that follow the simplest spelling patterns (such as CVC words), with lots of repetition of words across each selection. By the end of the third year, there will be some words that the children do not already know, words with more complex spelling patterns, including 2- and 3-syllable words, and much less repetition. Sentences will increase in complexity, as well, both in terms of sentence construction and how they are formatted on a page. At the beginning, the sentences may be quite short, perhaps 3-6 words per sentence. By the end of the third year, some of the sentences might include as many as 14 words. In Year 1, each sentence is printed on its own line with only 1-2 sentences per page. Gradually, these sentences should be allowed to carry over across more than one line, and there may be many lines of type on each page. New punctuation (starting with periods and question marks, but eventually including commas, quotation marks, possessives) and formatting features (e.g., boldface type, italics), are introduced across the three-year period as well.

There are free textbook-based reading programs, mostly in English, that provide anthologies of such selections. These cover the entire three-year period, providing 1-3 such texts for each week of instruction. These programs sequence the selections so that the texts increase in complexity gradually. It is also possible for schools to assemble their own collections of texts. Either way, it can be helpful for teachers to have a sense of both the levels of difficulty that match their students’ needs and that provides some sense of how texts can appropriately increase in difficulty. For a list of free book resources in other languages, see Table 12 in the Appendix.



Resource Box

Supporting Learning Progress

Here are some free resources that can help schools to provide the kinds of texts that would best support student learning progress.

- [Beginning Reads](#). TextProject, Inc.
- [Find Books for Beginning Readers](#). Lexile Framework for Reading.
- [Bookworms K-5 Reading and Writing](#). Open Up Resources.

Classroom Practices for Reading Comprehension

In the first half of the first year of schooling, children should have stories read to them. Now we will turn to instructional routines that can be used to teach reading comprehension. During the first half of the first year of schooling, the focus will be largely if not entirely upon listening comprehension. The teacher will read texts to the students and will engage them in discussions and activities. The texts will change day to day and the activities that the teacher uses will vary based on the possibilities that the texts provide and that day's instructional goals. The activities provided here have been drawn from research that has found them effective in improving listening and reading comprehension.

> Shared reading

Dialogic reading, and particularly the PEER approach, help ensure that students are actively engaged. One useful instructional approach is called “dialogic reading”, and this is the PEER (Prompt, Evaluate, Expand, Revise) version of that (Whitehurst, n.d.). The point of PEER is to ensure that students are actively engaged in listening and trying to think about the ideas in the text. It can be used with a wide variety of texts. The teacher reads a part of the book, perhaps as little as a page or as much as the entire story or article. Reading shorter portions of the text allows for a greater amount of student engagement and for greater emphasis on the specific content, vocabulary, or reasoning requirements of a particular section of the text. After reading that portion, the teacher **Prompts** the students to say something about it and the teacher then **Evaluates** the response. Based on that evaluation, the teacher **Expands** on the student response, rephrasing it, and adding to it. Finally, the teacher **Repeats** the original prompt to ensure that children have learned the expansion. While this activity gets students talking, the different kinds of prompts the teacher gives will determine what students will focus on.

The CROWD approach summarizes five types of prompts teachers may ask students. Another acronym, CROWD, summarizes five types of prompts that the teacher may give in dialogic reading (completion, recall, open-ended, wh-questions, and distancing). By sharing a book with the students and engaging them in responding to these varied prompts or questions, the students have an opportunity to increase knowledge of the world, oral language, and, depending on the Wh- questions asked, their verbal reasoning. See Table 10 (Appendix) for an explanation and examples of these prompts.

“Text talk” is another approach that uses shared reading as the basis of expanding kids’ vocabularies. Another effective way to handle shared reading is an approach called “Text Talk” (Beck & McKeown, 2001). Text Talk focuses specifically on using shared reading as the basis of expanding the children’s vocabularies. The teacher identifies two words to teach from the text to be read to the students. These should be words that are important – that will be used with some frequency in later reading – but which the children will not be likely to already know. **Instruction proceeds through the following 7 steps:**

- 1 Read the story.
- 2 After reading the text, re-introduce and contextualize the words: “In the story, Lisa was reluctant to leave the laundromat without her teddy bear.”
- 3 The children repeat the word to create a phonological representation (“say the word with me... reluctant.”)
- 4 Explain the meaning of the word. (“Reluctant means that you are not sure you want to do something.”)

- 5 Give different examples. (“You might be reluctant to eat food that you never had before, or you might be reluctant to do something that looks scary.”)
- 6 Children provide personal examples. (“Tell us about something you would be reluctant to do. You could say, ‘I would be reluctant to...’”).
- 7 Children repeat the word to reinforce its phonological representation (“What’s the word we’ve been talking about?”)

Over time, it is necessary to review these words so students will retain them. The more words they learn, the better prepared they will be for comprehending other texts.

>Guided Reading

When kids have enough decoding skills to read simple texts themselves, shift to reading comprehension. By the mid-point of the first year, the children should have sufficient decoding skills that they can begin to read simple texts themselves. From this point on, the children will receive lessons in reading comprehension as opposed to listening comprehension. Some teachers will choose to continue with shared reading beyond this point, a good choice if it does not reduce the amount of student reading.

Students should be given 1-3 short texts per week at the start for guided reading. As with shared reading, guided reading lessons will focus on a text. Students will read 1-3 texts per week and the following activities will help them develop and enhance their reading comprehension abilities. Of course, the activities described for shared reading could be applied to reading comprehension too. However, the following lessons will take students even further in their comprehension development. The first of these is a guided or directed reading activity. This kind of activity routinizes the act of reading and provides students with a model of how they can systematically work their way through a text, grasping its ideas. The teacher serves as guide, providing the “executive control” that the students will eventually need to do themselves. Typically, guided reading activities include 4 introductory steps.

- First, the teacher introduces new vocabulary from the text, both so students will learn these words, but just as importantly to remove these as impediments to the students’ understanding of this particular text. The point of the directed reading activity is to scaffold the students’ reading so a reasonably full understanding can be accomplished.
- The next step is to have the students preview the text, reading the title, examining the pictures, reading the blurb if there is one, and so on. This helps students to anticipate what the text might be about.
- Third is a background knowledge step in which the teacher either guides students to think about what they know about the topic or from other stories. This can be an opportunity for children to extend their language by talking about their experiences, and teachers might have the students first do a “Turn and Talk” and then report out to the class their ideas about the topic (this is especially helpful for second language students if it allows them to discuss the story first in their home language and then in the language they are learning). When students are to read about an unfamiliar topic, the teacher may instead provide relevant background information – information on the topic that the text does not include but that the students may find useful for generating inferences as they read. If there is information in the text that the teacher suspects will confuse or mystify students, this is an opportunity to head off those problems.

- The final step in prereading preparation involves setting a purpose or giving students something specific to find out from the text. “Read this page and find out what Henry’s problem is” or “read this first section and find out everything you can about the kind of work people do in Nicaragua.”

These prereading steps should help ensure student success with the texts they are reading in class and should foster a sense of the value of previewing a text, thinking about what one already knows about the text topic, and setting a purpose for reading – a model of the kind of executive control that the students must gain.

Teachers soon begin to assign reading to students, starting with short texts and increasing their length gradually. At this point, the teacher assigns an amount of reading – anything from a page to the entire selection. Usually with the youngest children, the teacher will keep these portions very brief. Gradually, as students gain proficiency the teacher increases the lengths of the text segments. At the beginning, there will be proportionally much more discussion than reading, but over the course of these three years this will shift so that students spend more of the time immersed in reading the texts.

While beginner readers will read texts aloud, after about a year they will begin to read silently. When guided reading starts out, students will read the texts aloud. Beginning readers cannot read silently. Some teachers prefer to have students reading these portions chorally, or they may have more than one student taking turns doing this reading. After students have had roughly a year of this kind of practice, the teacher should start initiating silent reading briefly, maybe a sentence or two (at a time) that will then be discussed; if the students fail to understand those sentences, the teacher can ask students to reread them. Do not expect true silent reading or “reading in the head” but allow students to “whisper read” or “mumble read” as they make the transition from oral to silent. These efforts to sustain the reading of increasingly long portions of text under the guidance and supervision of a teacher should engage students in meaningful reading practice that increases their reading stamina and that helps them transition from oral to silent reading.

Teachers should question students on the content & meaning of texts read to check comprehension. Finally, after each section has been read, the teacher questions the students about the information in the text (Murphy, et al, 2009). These questions will help steer students towards the important information, insights that should carry over to their independent reading, and their responses should give the teacher diagnostic information concerning the students’ comprehension success. There are various schemes that have been put forth for guiding teacher questions. None has consistently been found to be more effective at stimulating learning than any other. What they have in common is that they all encourage teachers to ask questions about what the text states explicitly (literal recall) as well as questions that require inferencing and the making of connections across a text. Responding to teacher questions gives students opportunities to practice the verbal reasoning central to reading comprehension, as well as to use oral language to discuss the text, and to further develop executive controls (e.g., during reading it is a good idea to stop occasionally and ask questions about the text).

When asking these questions, teachers should wait five seconds to give students time to answer. It is important that students have adequate opportunities to answer teacher questions. Often teachers ask questions but do not wait for an answer. They either redirect the question to another student or answer it themselves before students have a real chance to respond. Research suggests waiting about 5 seconds after asking a question before intervening (Wasik & Hindman, 2018). When this is done, children provide more correct and more elaborate answers. If students are unable to answer a question properly, it can be helpful to take them back to the part of the text that they failed to grasp, have them reread, and try again.

Teachers should teach unfamiliar words as often as needed so they are not barriers. The introduction of new vocabulary prior to text reading is no more than a familiarization. The teacher is making certain that the students can make sense of the text and is removing a possible barrier to comprehension. To ensure that these words are learned so this knowledge will be available for the reading of future texts, it is important that there be follow-up that helps with retention. In this way instruction builds language. Some of the steps of the earlier presented “Text Talk” can be useful for this more extended study – getting students to say the words, produce personal examples of the words, and provide frequent review.

> **Strategy instruction**

Various strategies for comprehension can be taught. Another approach to teaching reading comprehension is to teach comprehension strategies (Shanahan, et al., 2010). A strategy is an intentional attempt to accomplish something or to solve a problem. Comprehension strategies tend to be a series of action steps readers can use deliberately while reading to direct their attention in a useful way or to process information to improve comprehension and recall. Some strategies are simple and others a bit more elaborate and harder to use. An example of an easy strategy to learn is monitoring. Monitoring directs students to be self-aware; to notice when they are not understanding the text. When children pay attention to their understanding, they can employ fix up strategies to address the problem when it arises. There are many fix up strategies including rereading, examining the illustrations, looking up word meanings, and asking for help, for instance. Several reading comprehension strategies have been found to improve comprehension in these early years, including: (1) activating prior knowledge or predicting; (2) questioning; (3) visualization; (4) monitoring, clarifying, or fix up; (5) inference, and (6) retelling. These strategies are summarized and described more fully in Table 11 (Appendix). The research supports teaching students to use multiple strategies during reading.

Teachers should explain each strategy and provide a step-by-step demonstration of how it is implemented. How do you teach a strategy? The approach most widely recommended and supported by research is what is referred to as “gradual release of responsibility.” In this approach, the teacher starts out explaining the strategy and demonstrates its use. The explanation includes what the strategy is (“questioning”), the purpose of the strategy (“When you are reading, it is a good idea to stop occasionally and ask yourself questions about what the text says. If you cannot answer your questions, go back, and reread. If you do this, you will remember more of what you read”), when to use the strategy (“this is useful when you are trying to learn the information from the text”), and will provide a step-by-step description of how it is implemented. Then the teacher takes the students through the strategy with a text, with the teacher doing the work: explaining the strategy, implementing each step, and reading the text.

Teachers then gradually ‘release responsibility’ until students can implement the strategy independently. After a demonstration or two, the teacher begins to transfer responsibility to the students. With the questioning strategy, the teacher might explain the strategy again, have the students read a page, and then have them ask questions that the teacher will answer. When the children show proficiency in asking appropriate questions, then the teacher has the students answer those themselves. When that is proceeding smoothly, the teacher might have the students choose stopping places and give explanations of how the strategy works and what it is supposed to do. By the end of this process, students should be able to implement the strategy independently. Each of these iterations is implemented with a different text. Teachers need to make sure the students are both learning to use the strategies and the information from the text. This process of gradual release may be supported with additional explicit instruction to support students’ progress. For instance, with questioning, the students might be taught the 5 Ws and an H (who, what, when, where, why, and how); explaining to the students the differences in these questions and the types of information each elicits. This kind of support can make it easier for students to generate their own questions about texts.

Strategy improves comprehension by improving kids’ executive control and vocabulary. Strategy teaching improves comprehension by increasing students’ executive control, and because of the transfer of responsibility that takes place, it creates opportunities for increasing the amount of oral language practice in the classroom. If the teacher manages to teach the strategy while still emphasizing text content, it can also increase student’s world knowledge.

> **Text structure**

Teaching students about the structure of the text they are reading also aids comprehension.

Teaching students to use the organizational structure of texts is a third approach to comprehension instruction. Students can be taught to identify and use the texts’ organizational structure to comprehend, learn, and remember content. Understanding how stories are organized helps students to distinguish between major and minor events and to anticipate how a story might advance. Young students should be exposed to both stories and informational texts, and they should learn how authors organize these kinds of text. Research shows that teaching text structure improves reading comprehension (Bogaerds-Hazenberg, Evers-Vermeul, & van den Bergh, 2020; Hebert, Bohaty, Nelson, & Brown, 2016; Meyer & Ray, 2011; National Reading Panel, 2000; Pyle, et al., 2017), and this instruction is beneficial both for native speakers and those learning to read in a second language (Wijekumar, et al, 2018). They work with both listening and reading comprehension, including with young children (Williams, et al., 2016).

Students can learn about the elements of narrative texts, such as the setting, characters, etc.

Narrative texts communicate a story or sequence of fictional or factual events. Story elements that students can learn to anticipate include setting (the time and place), characters the story is about, problem that confronts the main character, attempts the character makes to deal with the problem, outcomes of those attempts, and the character’s emotional or psychological reaction to the outcome. Stories also typically have a theme, a lesson to be learned; this may be explicit or may require inferring. Have students read stories to identify these elements through discussion. Students can read stories and complete a “story map,” a template that specifies those elements.

Students can also learn the elements of expository texts and use them to think about the ideas in the text.

Expository texts provide descriptions or explanations of various topics. These kinds of texts can be organized in a variety of ways, or a single text might have sections that use different organizational approaches. Key structures that can be taught include description (describing the look, feel, smell, sound, or taste of something), sequence (a time ordered set of events), problem and solution (what went wrong and how it can be fixed), cause and effect (how one event leads to another) and compare/contrast (how things are alike and different). Students can learn to recognize these structures and to use them to think about and remember the ideas expressed in text. The same approaches described for working with narrative texts can be used with informational texts. Additionally, these expository structures are often signaled by clue words that students can be taught to notice. For instance, sequential texts may use terms like *first, then, next, after*; problem solution texts may use *because, if, so that, in order to*; cause and effect texts may use words like *because, therefore, so*; and comparison texts may use words like *both, alike, but, however, than*.

Teaching about text structure improves knowledge of literacy, executive control, vocabulary and contextual knowledge. This kind of instruction both enhances students’ knowledge of literacy (information about genres and text structures) and increases their executive control (their ability to use the organization of a text to intentionally focus their attention and to support their recall of the text information). As with the previous activities, this one also has the possibility of extending student language

and increasing their knowledge of the world through the text they are studying and the discussions in which they participate.

Summary of Reading Comprehension

Instruction in reading comprehensions uses guided reading with many specific goals. A good deal of the work that is done with reading comprehension involves directed reading practice. Students listen to and read texts and the teacher provides a variety of supports – familiarizing them with new vocabulary, guiding them to preview the text, setting purposes and stopping points, teaching them strategic steps and organizational schemes – as well as productive follow ups including asking questions, encouraging discussion, and providing ways for the students to summarize text. Additionally, teachers can provide explicit teaching to ensure that students increase their vocabulary and learn to use strategies and text structures. These reading and listening activities and their derivatives should be substantial enough to justify devoting half the reading instruction time to them.

The key ideas about reading comprehension instruction include:

- Reading comprehension arises from oral language development. Teachers must provide good oral language models for the students and opportunities for students to engage in extended talk with the teacher and their peers.
- There is a need for two types of texts, one for shared reading (the teacher reading to the students) and another for guided or directed reading of which the students will do the reading themselves with teacher support.
- Shared reading is a great opportunity to increase student knowledge (learning the information in the text) and to promote language development (exposing students to unknown vocabulary and complex sentence and text structures).
- Text talk is an effective shared reading activity aimed at increasing young children’s vocabularies.
- Guided or directed reading activities help students to comprehend what they read. Teachers introduce new vocabulary, review relevant background knowledge, provide specific purposes for reading, and guide discussion of the text by asking appropriate questions.
- Teachers should teach students comprehension strategies that allow them to guide their own reading successfully. Such strategies include monitoring comprehension, summarizing,



Quality and efficiency of instructional procedures



Quality of Instruction

The quality of instruction is another key factor that determines learning results. This paper started from the premise that there are three key features of effective reading instruction: the amount of teaching, what is taught, and the quality of that instruction. We will now turn to that final piece of the puzzle, quality. Quality of instruction refers to how some instructional approaches are more effective (leading to more learning) or more efficient (leading to faster progress in learning) than others. Imagine two teachers teaching the same content for the same amount of time to equal groups of students. Would they obtain the same learning results? Not necessarily. Differences in amounts of instruction or in what teachers teach can lead to learning differences, but when those important factors are held constant, then the variations in learning must be due to how the teachers deliver the lessons. Some approaches to teaching are more powerful than others. Teachers who present lessons in ways that are consistent with these quality factors will be more successful than those who do not.

Some quality factors are tied to specific content, like pointing children’s attention to their mouths during articulation. In the previous section, some quality factors were already discussed. It was stated, for instance, that phonemic awareness instruction should focus, in part, on articulation, being certain that students could see the teacher’s mouth, and so on. That is a qualitative feature of teaching that can improve efficiency or effectiveness when someone is teaching phonemic awareness. Likewise, the teacher who follows the steps of the gradual release of responsibility model will increase the chances that the students will become good readers because that is a qualitative feature of effective reading comprehension instruction. Those quality features were specific to the content that was being taught; articulation is important when teaching aspects of phonology, but it has little value with letter names, verbal reasoning, or world knowledge.

Other quality factors—such as motivating students or setting clear goals—are more generic. There are also other, more general issues in teaching quality that are not so specific to what is being taught. These general quality principles are relevant to all teaching and learning and should be considered no matter what is being taught. Setting clear purposes, focusing student attention, motivating learners, providing helpful feedback and other aspects of teaching have been found to confer learning advantages. This final section addresses some of those issues briefly.

Purpose Setting

Having clearly stated learning goals helps students perform better. Learning is enhanced when instruction is aimed at clear and specific learning goals for students and the students are aware of what it is that they are supposed to be learning (Brophy, 2004; Hattie, 2009). With clear learning objectives students can see the connections between what they are doing in class and what they are supposed to learn (Pintrich & Schunk, 2002), and they can expend their efforts towards meeting the goal rather than simply completing assignments or participating in activities. Learning objectives are what students are supposed to know, understand, or do because of the lesson, learning activity, or assignment. When students know that they are supposed to summarize the important ideas on a page

or to retell a story including the story map components, they are more likely to accomplish these goals than if their focus is simply on reading the story and answering the teacher's questions.

- Begin all lessons with an explanation of what it is that the students are supposed to learn (and not on what activity or assignment they are expected to do or to complete).
- Conclude lessons with a review of those purposes.

Attention

Teachers must promote concentration and focused mental effort by students. Attention is the first step in learning. No one can understand, learn, or remember anything to which they have not paid attention (McGinty, Justice, Piasta, Kaderavek, & Fan, 2012; van de Sande, Segers, & Verhoeven, 2017). When it comes to academic learning – including learning to read – students must pay active attention to what the curriculum emphasizes. If the teacher is teaching the connection between the letter *m* and the /m/ phoneme, students will not be likely to succeed if they do not look at the letter and listen to the pronunciation. Active attention requires effort and concentration; it includes focusing on what is important, ignoring distractions, and maintaining mental effort throughout a learning task.

- Teachers must split their own attention between delivering a lesson and noticing whether students are on track. If they are not paying attention, stop and regain their attention before proceeding.
- Include physical activity. Young children do better if they are given brief breaks and opportunities to move. An hour of reading instruction at these ages would be better if it were punctuated by two or three 5-minute breaks (6-year-olds can typically retain attention profitably for 10-30 minutes at a time). This means it may take more than an hour to deliver 60 minutes of instruction.
- Vary the activities frequently within a lesson – perhaps the teacher talks to the students for 5 minutes, engaging them in 3 minutes of activity (reading, writing, engaging in partner talk, etc.), and then changes the activity again. Break activities in chunks to increase productivity.
- Remove and limit distractions. If you want students to look at the spelling of a word, including a picture with the letters is potentially distracting. If you want students to look at one thing, remove other possibilities.

Motivation

Students do better when engaged—seeing the value in the content and having fun in class. Learning is most likely when students are motivated and actively engaged (Brophy, 2004; Keller, 1987). It is always easier to teach someone who is trying to learn. Students are more likely to be motivated when they recognize the purpose of a lesson, think it has value in their lives, and that they believe to be accomplishable. It helps, too, if they find the learning activities themselves engaging. For instance, in a phonemic awareness lesson, rather than having students say “same” or “different” in the evaluation of the first sound they hear in two words, they can jump or clap to communicate these judgements. Studies show greater engagement when students can make choices during instruction (e.g., who to work with, which assignment to do next, where to sit), and have challenge (that what they are learning may not be easy, but they believe they can succeed with), collaboration (opportunities to work with others), and control (having opportunities to apply their skills and strategies independently).

- Connect the lesson with what students already know. State explicitly how this lesson relates to previous lessons or use analogies that connect the new ideas to what students already know.
- Be enthusiastic about what you are teaching. Smile. Be encouraging and supportive.
- Have students learn new skills under low-risk conditions – students should not feel that they are in trouble if they give a wrong answer.
- Give students opportunities to work with other students in pairs and small groups when possible.
- Use texts that interest students or give them opportunities to make text choices to pursue their curiosity.

Memory Support

Reading requires a certain amount of memorization, and good teaching fosters memory support.

There are various kinds of learning implicated in learning to read. For example, the implementation of strategies in reading comprehension require that students learn to engage in a form of problem solving. But reading also requires a certain amount of memorization, learning the steps of those strategies, learning the matches of letters and phonemes for decoding, and even learning the content of the stories and articles used for reading comprehension. Research has shown that young children do not spontaneously engage in the kinds of mental activities (such as rehearsal or repetition) that lead to increased ability to remember. Good teaching can have a powerful impact on student memory.

- Make sure the students understand what they are studying before they try to memorize it.
- Create situations that will require the students to repeat or rehearse the key information (e.g., repeating it chorally, talking about it with a partner, writing about it).
- Engage students in distributive practice, for instance starting a days' lesson with a review of what went before. Space out repetition across days and weeks, mixing in new facts with some that have already been mastered (interweaving).

Classroom Management

Establishing an orderly learning environment—through rules, routines, and procedures—helps keep students engaged in learning. Effective teaching requires orderly classrooms. Effective teachers use rules, procedures, and routines to ensure that students are actively involved in learning (Doyle, 1986; Martella, & Marchand-Martella, 2015; Marzano, Marzano, & Pickering, 2003; Pianta, 2006). Teachers use their classroom management to set the stage for instruction. Successful classroom management reduces distractions and disruptions, encourages on-task behavior, and makes students feel safe. Teachers should spend the first few weeks of school establishing routines, schedules, and rules that govern classroom behavior, and set expectations for how students are to act towards one another. The better this is done, the easier it will be to keep lessons focused on learning throughout the school year.

- Establish a small set of clearly stated, reasonable, enforceable rules of student behavior (e.g., respect each other, be prepared to participate, talk in an indoor voice, raise your hand for permission to talk, stay in your seat, no hitting).
- Establish some simple classroom routines (e.g., to gain student attention flick the lights or have students clap if they can hear your voice; do not begin a lesson until you have everyone's attention).

Feedback

Good feedback focuses on what students specifically need to do. Providing frequent and ongoing feedback is a significant means of improving learning (Hattie, 2009; Martin-Chang, 2017). Effective feedback helps learners to reflect on their learning so they can adjust to make better progress. Of course, for the teacher to provide useful evaluative information, it is necessary to pay attention to how the students are doing, monitoring their success and identifying what else must be accomplished for them to become good readers. High quality feedback is specific and ongoing.

- Effective feedback does not praise or criticize but focuses students on what they need to do specifically to succeed.
- Effective feedback not only points out what has not yet been accomplished, but what the students need to do. A fluency example: “You are not using the punctuation when you read. Remember to stop at each period.” Or, during a comprehension lesson: “Good readers make inferences. That’s why I ask you questions that require you to fill in what the author didn’t tell. I think you need more work on trying to think about not just what the author said but what he/she meant.”

Summary of quality teaching

Good teaching organizes both the classroom and individual lessons in ways that keep students focused on learning, no matter what is being taught. By establishing rules and routines teachers can reduce disruptions and off-task behavior. That sets the stage for more effective lessons. Effective lessons have clear purposes so that students know what it is they are to accomplish, provide explicit efforts to motivate the students towards those goals, focus their attention, and ensure they remember what they are taught. Lessons should conclude with summaries that remind the students of the purpose of the lesson and should offer feedback that gives students a sense of both their progress and what more they must do to be successful.

Language Differences and Learning to Read

The purpose of this paper was to provide guidance to educators in how to successfully teach young students to read during their first years of formal schooling. It could not possibly provide a comprehensive treatment of the issue, given that there are many entire books written not just on the overall topic, but on many of the specifics addressed here.

Nevertheless, one of the major joys, challenges, and complications of international literacy instruction is the plethora of languages that children speak around the world. Many of these languages have no written form, so teaching children to read in their home language would not be possible. In other cases, the home language may support literacy, but the schools may be focused upon some *lingua franca*, that is to be the students' second language.

We now know more about literacy instruction in different languages and teaching literacy in what is students' second language. A substantial body of research has emerged on the teaching of literacy in languages other than English, as well as on teaching students to read in what is to be their second language (e.g., August & Shanahan, 2006). Here some major insights drawn from those literatures will be summarized. These points are consistent with the specifics about such teaching already discussed in previous pages (such as how to deal with dialect differences in decoding or how to promote better text discussions) but should help educators to accommodate to and to adjust these recommendations in their circumstances.

Here are **five key points** to keep in mind when teaching students to read in languages other than English, and when teaching students in languages other than their home languages.

1 **Learning to read requires that students develop the types of skills described here – no matter in what language they are learning to read** (Perfetti & Dunlap, 2008). This is particularly important when it comes to decoding. All writing systems encode spoken language and all word reading activates phonology. Developing phonemic awareness, knowledge of written symbols, and the relations between written symbols and phonology are essentials of reading – though the particulars of the symbols and relations would differ depending on the languages. Likewise, when it comes to comprehension, the cognitive processes and memory demands will be the same – though the specific concepts embedded in the vocabulary and the cultural knowledge relevant to making sense of a particular text will vary across languages and cultures. The basic problem of learning to read is consistent across languages.

2 **Students make better progress in learning to read in a second language when they have had the opportunity to learn to read in their first language.** Although the basic problem of learning to read is the same across languages, this is “severely complicated” by the need to simultaneously acquire a second language and, perhaps, a second writing system. “The advantage of first language literacy acquisition is that it can build on a well-established language system that a child has acquired, with little effort, prior to literacy instruction” (Perfetti & Dunlap, 2008, p. 13). Given this, it should not be surprising that it is easier to learn to read in a second language if the student already knows how to read in their first language (Francis, Lesaux, & August, 2006). This, of course, is not always possible, but when it is, teaching students to read in their home language first, and then moving on to reading in a second language, is the preferred approach.

- 3 Whether or not students learn to read in their first language, they do best in learning to read in a second language when their first language is treated with respect.** The benefits of learning to read in one's first language are not entirely cognitive. There is a certain emotional comfort and reassurance that goes along with such learning. In contrast, learning to read a language in which one may not be proficient can be intimidating, particularly for young children in a school setting separate from their parents. Languages within a society may differ in status as well, further complicating these problems. In any event, making children feel comfortable and letting them know that their language is accepted is beneficial to learning (Goldenberg, Rueda, & August, 2006). That is why allowing conversation in the first language or initially accepting dialect-based pronunciations can facilitate student learning. Likewise, connecting reading to home experiences, welcoming parents to the school, and providing translation support to expedite home-school communication can all make valuable contributions.
- 4 The types of activities that facilitate language learning for students are generalizable across languages.** Although the examples provided in this paper focused on the learning of English, with additional examples in Portuguese and Urdu, the reasons these approaches work is not specific to these languages. The guidance provided here had more to do with human learning and how memory and language work. Advice to connect content to prior knowledge or to teach more distinguishable and frequent symbols first are relevant no matter which language may be the focus of reading instruction. This means that the instructional activities and approaches recommended throughout should be relevant in beginning reading teachers anywhere.
- 5 Differences in language demands do affect learning and require instructional adjustments.** Languages differ in the complexity of their scripts, consistency and simplicity of their sound-symbol relationships, size of decodable units within words, and so on. English, for example, has a complex and somewhat less reliable set of relations between written symbols and speech segments than is apparent in many other languages. Urdu also has a complex orthographic system, although its complexity somewhat differs from that found in English. For instance, many letters in Urdu refer to the same sound (e.g., the phoneme /ʒ/ is represented by the letters *ج*, *ز*, *ژ*, and *ڙ*). As mentioned before, short vowels are represented by diacritics, which are often omitted from typical Urdu writing. However, their presence/absence creates phonological differences that can also lead to changes in meaning, e.g., the words *مُز* and *مَر* are pronounced differently and have different meanings, but are written the same, with the exception of the diacritic. Moreover, the difference between aspirated and unaspirated consonants is phonemic in Urdu, and can result in changes in the meanings of words (Mirdehghan, 2010). Meanwhile, Portuguese has challenging vowel sounds and diphthongs (a, ãe, ai, ão, au, â, ã, e, ê, é, ei, eu, i, o, ô, ó, õ, oi, ou, u); some unusual consonants (lh, nh) and 22 different tenses. The fact that inanimate things have genders in Portuguese can also make it difficult to master the language. While in English, nouns are gender-neutral (e.g., the car, the river, the ball), in Portuguese, these nouns need to be referred to as either masculine (*o carro / o rio*) or feminine (*a bola*), where the articles "o" and "a" indicate masculine and feminine, respectively. These differences between languages do not change the nature of what the students need to learn (they still must learn, letters, speech sounds, spelling patterns), but these kinds of differences may require adjustments to the amounts of time required to teach them successfully. The complexity of English spelling, for instance, may require more time than would be needed with a simpler and more transparent spelling system. Similar adjustments may be needed – in one direction or another – depending on the numbers of or visual complexity of the letter symbols used in a language. These kinds of differences across languages require some instructional adjustment, but the nature of what must be learned and how it is learned is not expected to vary much across languages (Perfetti & Dunlap, 2008), meaning that the guidance provided here should be useful for supporting beginning reading instruction in any language.

Conclusions

Reading is an essential ability in the 21st century. It is important for both the individual and the society. Reading success during the first three years of schooling is critical to long term literacy success. This paper described the three things that teachers and schools can do to maximize literacy learning. First, it is important that a lot of time be devoted to literacy learning and practice, and that this time be spent specifically on those things that lead to learning. Second, there are particular things that students need to learn if they are going to be successful in learning to read. It is essential that teaching focus on developing word recognitions skills (e.g., phonemic awareness, knowledge of letters and sounds, decoding and fluency abilities) and reading comprehension abilities (e.g., language development, verbal reasoning, world knowledge, literacy knowledge, executive control). Third, quality teaching increases the effectiveness and efficiency of reading instruction. Teachers need to organize instruction in powerful ways that keep the emphasis on learning.

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Appendix

Table 1. Phonological Awareness Skills (English)

| Phonological Awareness Skill | Example |
|------------------------------|---|
| Word separation | The—man—ran—up—the—hill. |
| Syllabic segmentation | a—part—ment; trou—ble; air—plane |
| Rhyming | play—day; man—can; room—boom; cap—nap |
| Onset/rime | b—ig; m—an; r—ug; l--amb |
| Phoneme isolation | p—an; pa—n |
| Phoneme blending | /p/--/a/--/n/; /r/u/n/i/ng |
| Phoneme segmentation | m/a/p; t/a/bl |
| Phoneme identity | /map/ -- begins with an M sound |
| Phoneme adding | ree – reed – reeder – reedera -- readeram |
| Phoneme substitution | map / cap / pap / rap; Sam / sad / sag |
| Phoneme deletion | ready / red / re / r / |

Table 1.1. Phonological Awareness Skills (Urdu)

| PA Skill | Example |
|-----------------------|-----------------------------------|
| Word separation | آج - میری - سالگرہ - ہے۔ |
| Syllabic segmentation | بن - در؛ ت - را - نہ؛ بس - تہ |
| Rhyming | جن - دن؛ جانے - لانے؛ موتی - ہوتی |
| Onset/rime | پ - نگ؛ ک - مر؛ ہ - مت |
| Phoneme isolation | چ - چ؛ چم - چ |
| Phoneme blending | اب/ا/ط/ا/خ؛ اپ/ا/ر/ا/چ/ا/م/ |
| Phoneme segmentation | ب/ا/ل؛ س/ف/ر |
| Phoneme identity | پرندہ/ — begins with a پ sound |
| Phoneme adding | سا - ساتھ - ساتھی - ساتھیوں |
| Phoneme substitution | کام / نام / شام؛ کن / جن / دن |
| Phoneme deletion | ساتھی / ساتھ / سا / س/ |

Table 1.2. Phonological Awareness Skills (Portuguese)

| Phonological Awareness Skill | Example |
|------------------------------|--|
| Word separation | A—Lila—ama—a—mamã |
| Syllabic segmentation | For—mi—ga; ma—ca—co; ba—na—na |
| Rhyming | bela-dela; bola-gola; pala-mala; tia-pia |
| Onset/rime | l—ama; m—ana; r—ato; g—ota |
| Phoneme isolation | p—ar; pa—r |
| Phoneme blending | /p/--/a/--/r/; /r/á/p/i/d/o |
| Phoneme segmentation | m/a/r; ch/a/t/o |
| Phoneme identity | /mar/ -- begins with an M sound |
| Phoneme adding | re – mo – remar – remo -- remove |
| Phoneme substitution | ver / ser / ter / ler; com / som / tom |
| Phoneme deletion | comove / como / com / c / |

Table 2 Consonant sounds change when combined with different vowels (Portuguese vs. English)

| English | | Portuguese | |
|---------------|------------------|---------------|------------------|
| Soft G (e, i) | Hard G (a, o, u) | Soft G (e, i) | Hard G (a, o, u) |
| Gentle | Gate | Gema | Gato |
| Giant | Got | Girafa | Gota |
| | Gut | | Guloso |

Table 3. Syllabication guidance for English

| Guidance | Examples |
|--|---------------------------------------|
| When there are two consonants between two vowels, divide between the consonants. | win/dow, let/ter |
| When there is only one consonant between two vowels, divide before the consonant. | ti/ger, spi/der |
| Most words ending in LE put the preceding consonant with the LE. | sim/ple, lit/tle |
| Separate prefixes (e.g., un, pre, anti) and suffixes (e.g., ed, ing, able) from the root word. | runn/ing, un/tie, pre/school |
| Certain letters are not separated for syllabication (including consonant blends like br, tw, pl) and vowel digraphs (e.g., ai, ou, ew) | tail, cough, flew, broke, twice, play |

Table 4. Average number of words read correctly per minute by students

| Year | Beginning of Year | Mid-Year | End of Year |
|------|-------------------|----------|-------------|
| 2 | -- | 29 | 60 |
| 3 | 50 | 84 | 100 |

Table 5. Phoneme-Grapheme Correspondences for Consonants (English)

| Phoneme | Common Spellings | Word Examples |
|---------|---------------------|--------------------------------------|
| /b/ | b, bb | bit, brat, bubble |
| /d/ | d, ed | Dad, loved |
| /f/ | f, ff, ph, lf | fluff, sphere, tough, calf |
| /g/ | g, gh | girl, ghost, bag |
| /h/ | h, wh | house, whole |
| /j/ | j, dge, ge | judge, wage |
| /k/ | k, c, ck, ch, lk, q | cup, kite, duck, chorus, folk, quiet |
| /l/ | l, ll, le | lamb, call, single |
| /m/ | m, mb, mn | mitt, comb, hymn |
| /n/ | n, kn, gn | nice, knight, gnat |
| /p/ | p, pp | pit, spider, stop |
| /r/ | r, wr, er/ur/ir | ran, wrap, her, fur, stir |
| /s/ | s, ss, sc, ps | sit, pass, science, psychic |
| /t/ | t, tt, ed | tickle, mitt, sipped |
| /v/ | v, ve | van, dove |
| /y/ | y, u, ed, i | you, use, feud, onion |
| /z/ | z, zz, se, s, x | zoo, jazz, nose, as, xylophone |
| /zh/ | s, z | measure, azure |
| /ch/ | ch, tch | cheap, future, etch |
| /ng/ | ng, nk | sing, bank |

| | | |
|---------------|-------------------------------|--|
| /sh/ | sh, ss, s, ch, sc, ti, si, ci | shoe, mission, sure, charade, precious, notion, mission, special |
| /th/ | th | thin, breath, ether |
| / <u>th</u> / | th | this, breathe, either |
| /wh/ | wh | where |

Table 5.1. Phoneme-Grapheme Correspondences for Consonants (Urdu)

| Phoneme | Common Spellings | Word Examples |
|-------------------|------------------|---|
| /b/ | ب | بات، باب، اخبار |
| /b ^h / | بھ | بھول، بھاری، ابھی |
| /p/ | پ | پاک، باپ، واپس |
| /p ^h / | پھ | پھول، پھر، پھل |
| /m/ | م | مل، آرام، آدمی |
| /m ^h / | مھ | کمھار |
| /t/ | ت، ط | تب، ختم، جیت، طاقت، خط، لطیفہ |
| /t ^h / | تھ | تھالی، ساتھ، پتھر |
| /d/ | د | دن، بند، آمد |
| /d ^h / | دھ | دھوپ، بدھ، ادھر |
| /t/ | ٹ | ٹوپی، کاٹ، آٹا |
| /t ^h / | ٹھ | ٹھنڈ، بیٹھا، آٹھ |
| /d/ | ڈ | ڈر، انڈا، کارڈ |
| /d ^h / | ڈھ | ڈھکن، ڈھول، ڈھیلا |
| /n/ | ن | نام، دن، بنانا |
| /n ^h / | نھ | نھانھا |
| /k/ | ک | کام، کے، روک، حکم |
| /k ^h / | کھ | کھیل، آنکھ، دیکھا |
| /g/ | گ | گانا، گرم، آگ، آنگن |
| /g ^h / | گھ | گھر، گھوڑا، سوگھنا |
| /ŋ/ | ن | سنگ، سنگھ، سنگ |
| /q/ | ق | قلم، حق، رقم |
| /ʔ/ | ع | عام، جمع، دعا |
| /f/ | ف | فخر، صاف، سفر |
| /v/ | و | وقت، دو، اور |
| /s/ | س، ص، ش | سات، جس، آسان، صحت، خاص، اصل، ثابت، بحث، اثر |
| /z/ | ذ، ض، ظ، ز | ذات، کاغذ، غذا، ضد، فرض، ماضی، ظالم، لفظ، نظم، زور، تیز، روز، عزت |
| /ʃ/ | ش | شام، جوش، خشک |
| /ʒ/ | ژ | ژالہ باری، اژدہا |

| | | |
|-------|------|---|
| /x/ | خ | خط، رُخ، آخر |
| /ɣ/ | غ | غم، باغ، آغاز |
| /h/ | ه، ح | ہم، راہ، منہ، بہت، اہم، حق، روح، صبح، صحت |
| /l/ | ل | لال، اصل، الگ |
| /lʰ/ | لھ | دولھن، دولھا (uncommon spelling) |
| /r/ | ر | راہ، آخر، کرنا |
| /rʰ/ | رھ | تیرھواں، سرھانہ |
| /ɽ/ | ڑ | ٹوڑ، بڑا، گڑیا |
| /ɽʰ/ | ڑھ | گڑھ، پڑھنا، سیڑھی |
| /j/ | ی | یہ، جی، امید |
| /jʰ/ | یھ | یھان (uncommon spelling) |
| /tʃ/ | چ | چپ، سچ، بچہ |
| /tʃʰ/ | چھ | چھ، کچھ، اچھا |
| /dʒ/ | ج | جب، آج، سچ، وجہ |
| /dʒʰ/ | جھ | جھوٹ، بوجھ، مجھے |

Table 5.2. Phoneme-Grapheme Correspondences for Consonants (Portuguese)

| Phoneme | Common Spellings | Word Examples |
|---------|------------------|---------------------------------|
| /lh/ | lh | calha, molho, ilha |
| /sh/ | ch, x | chama, chove, Xangai, xuxa |
| /nh/ | nh | manhã, pão, mão |
| /rr/ | rr, r | carro, rato, rola |
| /ss/ | ss, s, ç, c | sapo, massa, sala, cresce, moça |
| /k/ | c, qu | cão, cama, queijo, porque |
| /g/ | gu, g | guitarra, gato, gama, guloso |

Table 6: Phoneme-Grapheme Correspondences for Vowels (English)

| Phoneme | Common Spellings | Word Examples |
|----------|--------------------------------------|--|
| /ă/ | a | cat |
| /ĕ/ | e, ea | bed, breath |
| /ĭ/ | i, y | sit, gym |
| /ŏ/ | o, wa, al | fox, swap, palm |
| /ŭ/ | u, o, oo, ou | cup, cover, flood, tough |
| /ā/ | a_e, ai, ay, ea, a, ay, eigh, ei, ey | make, rain, play, great, baby, play, eight, vein, they |
| /ē/ | ee, e_e, e, ea, ey, y, ie, ei | see, these, me, eat, key, happy, chief, either |
| /ī/ | i_e, ie, y, igh, i | time, pie, cry, right, rifle |
| /ō/ | k, c, ck, ch, lk, q | cup, kite, duck, chorus, folk, quiet |
| /y/ /ū/ | u, ew, u_se | use, few, cute |
| /ū/ [ōō] | oo, u_e, ue, ew, ui, ou | took, put, could |
| /öö/ | took, put, could | oo, u, ou |
| /oi/ | oi, oy | boil, boy |
| /aw/ | aw, au, all, wa, ough | saw, pause, call, water, brought |
| /ow/ | ou, ow | out, cow |
| /ar/ | ar | cart |
| /er/ | er, ir, ur | her, sir, fur |
| /or/ | or | sport |

Table 6.1. Phoneme-Grapheme Correspondences for Vowels (Urdu)

| Phoneme | Common Spellings | Word Examples |
|---------|------------------|-------------------------|
| /u:/ | وُ | اُون، کودنا، آسو |
| /ū:/ | وُو | یُوں، کیوں، جُوں |
| /o:/ | و | بولا، بونا، کو |
| /ō:/ | وِو | انسانوں، آنکھوں، پرندوں |
| /ɔ:/ | وَو | پودا، سوڈے، شوہر |
| /ɔ̄:/ | وَوَ | کوئٹہ |
| /ɑ:/ | آ، آ | بازو، گانا، آنا، آدھا |
| /ā:/ | آ، آ | جاں، وہاں، آسو |
| /i:/ | ی | پیلا، اصلی، امید |
| /ī:/ | ی | آئیں، نہیں، نویں |
| /e:/ | ے | سے، دینا، جیب |
| /ĕ:/ | ی | آئیں، چلیں، یادیں |
| /e/ | ہ | سہرا، ذہنی، مہربان |
| /æ/ | ہ | شہر |
| /o/ | ہ | عہدہ، زہرہ، شہرت |

| | | |
|------|----|--------------------|
| /æ:/ | اَ | بٹھنا، تیرنے، میلا |
| /æ:/ | یَ | بیں، میں |
| /ɪ/ | اِ | بن، یلنا، دلکش |
| /ə/ | اَ | بن، دوات، گئے |
| /ʊ/ | اُ | بن، سُرمہ، دُنیا |
| /ĩ/ | اِ | سنگھار |
| /õ/ | اُ | کنوارا، یوں، کیوں |
| /õ/ | اَ | بھٹور، ہنس، پتنگ |

Table 6.2: Phoneme-Grapheme Correspondences for Vowels (Portuguese)

| Phoneme | Common Spellings | Word Examples |
|---------|------------------|----------------------------------|
| /a/ | à, á, ã, a, â | mão, à, às, pá, má, cama, ângulo |
| /e/ | é, ê, e | lê, jacaré, mês, mesa |
| /i/ | i, í | indicar, índice, vírus |
| /o/ | o, õ, ô, ó | povo, pó, põe, você |
| /u/ | u, ú | mula, último |

Table 7: Common phonics generalizations (English)**Common vowel generalizations:**

| | |
|------|-----------------------------|
| CV | be, go |
| CVC | bat, ram, hem, lot, rut |
| CVCe | cane, eve, dine, code, cube |
| CVVC | bait, coat |
| CVV | rain, jay, low, few |
| VCC | mind, hold |

R-influenced vowels:

| | |
|----|-------|
| ar | card |
| er | her |
| ir | bird |
| or | short |
| ur | curb |

Vowel combinations

| | | |
|----|--------|-------------------|
| au | caught | |
| aw | law | |
| ou | cough | (but also, could) |
| ow | town | (but also, blow) |
| oi | oil | |
| oy | oy | |

Consonant combinations

| | |
|----|--------------|
| ch | child |
| gh | cough |
| ng | song |
| ph | phone |
| sh | ship |
| th | tooth, there |

Conditional consonants

| | |
|----------|------|
| c (soft) | city |
| c (hard) | cat |
| g (soft) | gem |
| g (hard) | girl |

Silent consonants

| | |
|------|---------|
| gh | ghost |
| ght | height |
| gn | gnat |
| gh | resign |
| mn | solemn |
| rh | rhyme |
| sten | listen |
| stle | whistle |
| wr | wren |

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Common vowel generalizations:

| | |
|-------|-------|
| CVV | کا |
| CVC | بَن |
| CVVC | جوش |
| CV | مَت |
| CVCC | نَحْت |
| CVVCC | پانچ |

The C symbol denotes a consonant, the V symbol denotes a short vowel, the VV symbol denotes a long vowel, and the CC symbol denotes a consonant cluster (Ghazali, 2002).

Aspirated consonants:

| | |
|--|----|
| بھول، بھاری، ابھی | بھ |
| پھول، پھل، پھر | پھ |
| تھالی، ساتھ، پتھر | تھ |
| ٹھنڈ، بیٹھا، آٹھ | ٹھ |
| جھوٹ، بوجھ، مجھے | جھ |
| چھ، کچھ، اچھا | چھ |
| دھوپ، بدھ، ادھر | دھ |
| ڈھکن، ڈھول، ڈھیلا | ڈھ |
| تیرھواں، سرھانہ | رھ |
| گرٹھ، پڑھنا، سیرٹھی | ڑھ |
| کھیل، آنکھ، دیکھا | کھ |
| گھر، گھوڑا، سوگھنا | گھ |
| دولھن (alternative ڈلہن)، دولھا (alternative ڈلہا) | لھ |
| کھار، مھیں (alternative تمھیں) | مھ |
| نھنا | نھ |
| بھیاں (alternative یہاں) | بھ |

Diphthongs:

| | |
|-------|-------|
| گئی | ، ء ی |
| گئے | ، ء ے |
| آئے | آئے |
| آئی | آئی |
| کیوں | ؤں |
| گیا | ئے ا |
| ہوئی | وی |
| کوئی | وی |
| آئینہ | آء |
| خیال | آء |

(Center for Language Engineering, Urdu Phonetic Inventory)

Source: Center for Language Engineering, Urdu Phonetic Inventory

Table 7.2. Common phonics generalizations in Portuguese.**Common vowel generalizations**

| | |
|------|--------|
| V | água |
| VC | arfar |
| CV | parto |
| CVC | partir |
| CCV | prato |
| CCVC | frasco |
| VG | airoso |
| CVG | céu |
| CGV | quase |

The V symbol represents a vowel, the C symbol represents a consonant, and the G symbol represents a semivowel (or glide). (Direção Geral de Educação, Portugal).

Table 8. Some English word families.

| | |
|-----|---|
| ab | cab, dab, gab, jab, lab, nab, tab, blab, crab, grab, scab, slab, stab |
| ace | face, lace, mace, pace, brace, grace, place, space, trace, |
| ack | back, hack, pack, rack, sack, tack, that, splat |
| ad | bad, cad, dad, fad, had, lad, mad, pad, sad, tad, glad |
| ade | bade, fade, jade, made, wade, blade, glade, grade, shade, spade, trade |
| aft | daft, raft, craft, draft, shaft |
| ag | bag, hag, jag, lag, nag, rag, sag, tag, wag, zag, brag, drag, shag, snag |
| age | age, cage, page, rage, sage, stage, wage |
| aid | aid, laid, maid, paid, raid, braid |
| ail | bail, fail, hail, jail, mail, pail, rail, sail, tail, frail, trail |
| aim | aim, maim, claim |
| ain | gain, lain, main, pain, rain, brain, plain, stain, strain, train |
| ait | bait, gait, wait |
| ake | bake, cake, fake, lake, make, sake, take, wake, brake, flake, quake, shake, snake |
| ale | ale, bale, dale, gale, male, pale, rale, sale, tale, whale |
| all | ball, call, fall, hall, mall, tall, wall |
| am | bam, dam, ham, jam, ram, tam, yam, clam, slam, cram |
| ame | came, dame, fame, game, same, tame, blame, flame, frame, shame |
| amp | camp, damp, lamp, ramp, champ, clamp, cramp, scamp, stamp, tramp |
| an | ban, can, fan, man, pan, ran, tan, van, clan, plan, scan, than |
| and | and, band, hand, land, sand, bland, brand, grand, stand, strand |
| ane | bane, cane, mane, pane, vane, plane |
| ang | bang, hang, pang, rang, sang, clang |
| ank | bank, dank, rank, sank, tank, blank, crank, plank, prank, spank, thank |
| ant | ant, pant, rant, chant, grant |
| ap | cap, gap, lap, map, nap, rap, tap, zap, chap, clap, flap, slap, snap, strap, trap, wrap |
| ape | ape, cape, gape, jape, nape, tape, drape, grape, scrape, shape |
| ar | bar, car, far, jar, mar, par, tar, star |
| ard | bard, card, hard, lard, shard |
| ark | dark, hark, lark, mark, park, shark, spark, stark |
| art | cart, dart, mart, part, tart, chart, smart, start |
| at | bat, cat, fat, hat, mat, pat, rat, sat, tat, vat, brat, chat, flat, gnat |
| ate | ate, date, fate, gate, hate, late, mate, rate, crate, plate, state |
| ash | ash, bash, cash, dash, gash, hash, lash, mash, rash, clash, crash, flash, smash, trash |
| ask | bask, cask, mask, task, flask |

| | |
|------|--|
| ass | bass, lass, mass, pass, brass, class, glass, grass, |
| ast | cast, fast, last, mast, past, vast |
| atch | batch, catch, hatch, latch, match, patch, scratch, snatch |
| ath | bath, math, path, wrath |
| ave | cave, gave, pave, rave, save, wave, brave, crave, grave, shave |
| aw | caw, jaw, law, maw, paw, raw, saw, chaw, claw, crawl, draw, flaw, thaw |
| ay | bay, day, gay, jay, lay, may, pay, ray, say, way, clay, flay, gray, play, pray, slay, spray, stray |
| e | be, he, me, she, we |
| ee | bee, fee, see, wee, flee, free, glee, knee, three, tree |
| ead | dead, head, lead, read, bread, spread, thread, tread |
| eak | beak, leak, weak, freak, speak, streak |
| eal | deal, heal, meal, peal, real, seal, veal, zeal |
| eam | beam, ream, seam, team, cream, dream, gleam, scream, steam, stream |
| ean | bean, jean, lean, mean, clean, glean |
| ear | ear, dear, fear, hear, rear, sear, clear, drear, smear, spear |
| eat | beat, feat, heat, meat, peat, seat, cheat, treat, wheat |
| ed | bed, fed, led, red, wed, bled, fled, shed, sped |
| ee | bee, fee, see, tee, wee, flee, free, spree, thee, tree |
| eek | leek, peek, reek, seek, cheek, creek, sleek, squeak |
| eep | beep, deep, jeep, keep, peep, seep, cheep, creep, sheep, steep, sweep |
| eg | beg, keg, leg, peg |
| em | gem, hem, stem, them |
| en | den, hen, men, pen, ten, then, when, wren |
| ep | pep, step |
| et | bet, get, jet, let, met, net, pet, set, vet, wet, yet, fret |
| eck | deck, neck, peck, check, fleck, speck, wreck |
| eed | deed, feed, reed, seed, weed, bleed, breed, creed, freed, greed, speed, steed |
| eep | deep, peep, seep, weep, sheep, sleep |
| eeze | breeze, cheese, freeze, sneeze |
| ell | bell, dell, fell, sell, tell, well, smell, shell, spell, swell |
| end | bend, fend, lend, mend, rend, send, tend, wend, blend, spend, trend |
| ent | bent, dent, cent, lent, rent, sent, tent, vent, went, scent, spent |
| ept | kept, slept, swept, wept |
| ess | less, mess, bless, dress, guess, press, stress |
| est | best, jest, nest, pest, rest, text, vest, west, chest, guest, crest |
| etch | etch, fetch, sketch, stretch, wretch |
| ew | dew, few, hew, mew, new, pew, blew, brew, chew, crew, drew, flew, grew, screw, skew, strew |
| ick | kick, lick, pick, sick, tick, wick, brick, chick, click, flick, quick, slick, stick, thick, trick |
| id | bid, did, hid, kid, lid, rid, grid, slid, squid |
| ide | bide, hide, ride, side, tide, wide, bride, chide, glide, snide, |
| ie | die, fie, hie, lie, pie, tie |
| ief | brief, chief, grief, thief |
| ift | gift, lift, shift, swift |
| ig | big, dig, fig, jig, pig, rig, wig, prig, swig |
| ight | fight, light, might, right, sight, tight, bright |
| ike | bike, dike, hike, like, pike, trike, spike, strike |
| ile | bile, file, mile, pile, tile, smile |
| ill | bill, dill, fill, gill, hill, kill, mill, pill, sill, till, will, chill, drill, frill, grill, skill, spill, swill, trill |
| im | dim, him, rim, brim, grim, skim, slim, swim, trim, whim |
| ime | dime, lime, mime, time, chime, crime, grime, prime, slime |

| | |
|------|--|
| in | in, bin, fin, pin, sin, tin, win, grin, skin, spin |
| ind | bind, find, hind, kind, mind, rind, wind, blind, grind |
| ine | dine, fine, line, mine, nine, pine, tine, vine, wine, brine, shine, spine, think |
| ing | ding, king, ring, sing, wing, zing, bring, cling, fling, sling, spring, sting, string, swing, thing, wring |
| ink | link, mink, pink, rink, sink, wink, blink, chink, clink, drink, shrink, stink, think |
| int | hint, lint, mint, tint, flint, glint, print |
| ip | dip, hip, lip, nip, pip, rip, sip, tip, zip, chip, clip, drip, flip, grip, ship, skip, slip, snip, strip, trip, whip |
| ipe | pipe, ripe, wipe, gripe, tripe, stripe, swipe |
| ire | dire, fire, hire, mire, sire, tire, wire |
| it | it, bit, fit, hit, kit, pit, sit, wit, flit, grit, skit, slit, snit, spit |
| ite | bite, kite, site, smite, spite |
| itch | ditch, hitch, pitch, witch, switch |
| oat | boat, coat, goat, moat, bloat, float, gloat |
| ob | bob, cob, job, lob, mob, rob, sob, blob, glob, knob, snob, throb |
| ock | cock, dock, lock, mock, rock, sock, tock, block, clock, flock, shock, smock, stock |
| od | god, rod, sod, plod, prod |
| og | bog, dog, fog, jog, log, clog, frog |
| oil | boil, coil, foil, roil, soil, toil, broil, spoil |
| oke | coke, joke, poke, woke, bloke, broke, choke, smoke, spoke, stoke |
| ole | bole, dole, hole, mole, pole, sole, vole |
| one | bone, cone, pone, tone, zone, clone, drone, phone, prone, scone, stone |
| ong | bong, gong, long, song, strong, throng, wrong |
| oo | boo, goo, moo, too, woo, shoo |
| ool | cool, fool, pool, tool, wool, drool |
| oom | boom, doom, loom, room, zoom, bloom, broom, gloom, groom |
| op | cop, hop, mop, pop, sop, top, crop, drop, flop, plop, prop, shop, slop, stop |
| ope | cope, dope, hope, lope, mope, nope, pope, rope, grope, scope, trope |
| ore | bore, fore, gore, lore, more, pore, sore, tore, wore, score, shore, snore, spore |
| orn | born, corn, horn, morn, torn, worn, scorn, shorn, sworn, thorn |
| ose | hose, nose, rose, close, prose |
| oss | boss, loss, moss, toss, cross, gloss |
| ot | dot, got, hot, jot, lot, not, pot, rot, sot, tot, blot, clot, knot, plot, shot, slot, spot, trot |
| ote | cote, dote, mote, note, tote, smote |
| ound | bound, found, hound, mound, pound, round, sound, wound, ground |
| ove | cove, dove, rove, clove, drove, grove, stove, strove, trove |
| ow | bow, cow, how, now, sow, vow, brow, chow, plow, scow |
| ow | low, mow, row, sow, tow, blow, crow, flow, glow, grow, show, slow, stow |
| ox | ox, box, fox, pox |
| ub | cub, dub, hub, pub, rub, sub, tub, club, flub, scrub, shrub, snub, stub |
| uck | buck, duck, luck, suck, tuck, yuck, cluck, pluck, stuck, truck, yuck |
| ud | bud, mud, stud, thud |
| ue | cue, due, hue, sue, blue, clue, flue, glue, |
| uff | buff, cuff, huff, muff, puff, bluff, fluff, gruff, scuff, snuff, stuff, |
| ug | bug, dug, hug, jug, lug, mug, rug, tug, drug, plug, slug, snug |
| um | bum, gum, hum, sum, chum, drum, plum, scum, slum, strum |
| umb | dumb, numb, crumb, plumb, thumb, |
| ump | bump, dump, hump, jump, lump, pump, rump, clump, grump, plump, slump, stump, thump |
| un | bun, fun, gun, run, sun, shun, spun, stun |
| unch | bunch, hunch, lunch, munch, punch, brunch, crunch |
| ung | hung, lung, rung, sung, flung, clung, slung, sprung, strung, swung, wrung |

unk bunk, hunk, junk, sunk, chunk, drunk, flunk, shrunk, skunk, slunk, stunk, trunk
up up, cup, pup
ush gush, hush, mush, rush, blush, brush, crush, flush, slush
ust bust, dust, gust, just, must, rust, crust, trust
ut but, cut, gut, hut, jut, nut, rut, shut, strut
ute cute, lute, mute, brute, flute
y by, my, cry, dry, fly, shy, sky, spry, try, why

Table 9. 300 most frequent words in English.

| | | | | | |
|---------|---------|---------|-----------|----------|-----------|
| the | or | will | number | new | great |
| of | one | up | no | sound | where |
| and | had | other | way | take | help |
| a | by | about | could | only | through |
| to | word | out | people | little | much |
| in | but | many | my | work | before |
| is | not | then | than | know | line |
| you | what | them | first | place | right |
| that | all | these | water | year | too |
| it | were | so | been | live | mean |
| he | we | some | call | me | old |
| was | when | her | who | back | any |
| for | your | would | oil | give | same |
| on | can | make | now | most | tell |
| are | said | like | find | very | boy |
| as | there | him | long | after | follow |
| with | use | into | down | thing | came |
| his | an | time | day | our | want |
| they | each | has | did | just | show |
| I | which | look | get | name | also |
| at | she | two | come | good | around |
| be | do | more | made | sentence | form |
| this | how | write | may | man | three |
| have | their | go | part | think | small |
| from | if | see | over | say | set |
| put | kind | every | left | until | idea |
| end | hand | near | don't | children | enough |
| does | picture | add | few | side | eat |
| another | again | food | while | feet | face |
| well | change | between | along | car | watch |
| large | off | own | might | mile | far |
| must | play | below | close | night | Indian |
| big | spell | country | something | walk | real |
| even | air | plant | seem | white | almost |
| such | away | last | next | sea | let |
| because | animal | school | hard | began | above |
| turn | house | father | open | grow | girl |
| here | point | keep | example | took | sometimes |
| why | page | tree | begin | river | mountain |
| ask | letter | never | life | four | cut |

| | | | | | |
|-----------|---------|---------|-----------|---------|--------|
| went | mother | start | always | carry | young |
| men | answer | city | those | state | talk |
| read | found | earth | both | once | soon |
| need | study | eye | paper | book | list |
| land | still | light | together | hear | song |
| different | learn | thought | got | stop | leave |
| home | should | head | group | without | family |
| us | America | under | often | second | body |
| move | world | story | run | late | music |
| try | high | saw | important | miss | color |

Table 10: CROWD prompts to be used with Dialogic Reading.

| Types of Prompts | Explanation | Purpose |
|------------------|---|---|
| Completion | Leave a blank at the end of a sentence and get a child to fill it in. These may be used with books with rhymes or repetitive phrases. The teacher might say, "Mary had a little _____," letting the child fill in the blank with the word lamb. | Provides children with information about the structure of language. |
| Recall | Ask questions about what happened in a book. You might say, "Can you tell me what happened to the in this story?" | Recall prompts help children in understanding story plot and in describing sequences of events. |
| Open-ended | These prompts focus on the pictures in books. They work best for books that have rich, detailed illustrations. "Tell me what's happening in this picture." | Open-ended prompts increase children's expressive fluency and attend to detail. |
| Wh- questions | These prompts begin with what, where, when, why, and how questions. | Wh- questions may emphasize vocabulary or can focus student attention on any of the information in a text. |
| Distancing | This prompt asks children to relate the pictures or words in the book they are reading to experiences outside the book. For example, "There was a truck in the story. Who do you know who has a truck like that?" | Distancing prompts help children form connect books and the real world, and help with verbal fluency, conversational abilities, and narrative skills. |

Table 11: Reading comprehension strategies

| Strategy | Description | Example |
|--|---|--|
| Activating Prior Knowledge/Predicting | Students think about what they already know about topic, or they predict what will happen or come next based on their knowledge | <p>“We’re going to read about a family whose relatives come to stay overnight in their home. Have you ever had company spend the night? What happened?”</p> <p>“Given this title and picture what do you think will happen in this story?”</p> |
| Questioning | Students ask and answer questions about what they have read | Provide a list of the Wh-questions and have small groups come up with one question of each type about what they just read. |
| Visualizing | Students develop a mental image of what was described in text | Have students close their eyes and try to see what they just read about. |
| Monitoring, Clarifying, and Fix Up | Students pay attention to whether they are understanding what they are reading and take actions if they are not | Have students read a challenging text and then have them try various fix up strategies: finding out the meaning of an unknown word, rereading, and so on. |
| Inferencing | Students generate information that the author only implies | Have students list information the text provided and information that must be true that the text didn’t say explicitly |
| Summarizing/Retelling | Students briefly describe the main points of what they have read | Ask students to tell what happened in a text in his or her own words. If the student has trouble ask questions such as who was the main character? Then what happened? |

Table 12. Free book sources in hundreds of languages**African Storybooks**<https://www.africanstorybook.org/>**Bloom Library**<https://next.bloomlibrary.org/>**Book Box**<https://bookbox.com/>**Book Dash**<https://bookdash.org/>**Drum Publication Group**<http://www.drumpublications.org/readers.php>**eKitabu**<https://www.ekitabu.com/>**Fundza**<http://www.fundza.co.za/>**Global Digital Library**<https://digitallibrary.io/>**Indigenous Storybooks**<https://indigenoustorybooks.ca>**International Children's Digital Library**<http://en.childrenslibrary.org/>**Kitkit School**<http://kitkitschool.com/product/>**Let's Read Asia**<https://reader.letsreadasia.org/>**Let's Read! Khmer E-Books**<https://letsreadbooksorg.wordpress.com/>**NABU**<https://www.nabu.org/read/>**Nal'ibali**<https://nalibali.org/>**Room to Read**<https://literacycloud.org/>**Step By Step**<https://stepbystep.org.mk/biblioteka>**Storyweaver**<https://storyweaver.org.in/>**Video Libros**<https://www.videolibros.org/>**World Stories**<https://worldstories.org.uk/library>**World Reader**<https://www.worldreader.org/our-work/technology/worldreader/>

