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Early literacy development and instruction: An overview

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Chapter1: Early Literacy Development and Instruction: An Overview

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Abstract

The goal of this chapter is to give an overview of what we know about literacy development in children up to age eight, as well as to introduce some topics for which more research is needed. We know that good readers have developed familiarity and automaticity with symbols used in their writing system and how those symbols represent sounds, as well as oral language skills strong enough to enable them to make sense of the words they are decoding. This full array of skills develops optimally when children have access to rich language and literacy experiences at home and in early education settings. Controversies persist about how early it is useful to introduce explicit literacy instruction, and the optimal balance in early literacy education between form-based and meaning-based instruction. The variety of approaches to literacy instruction implemented across different national education systems and different languages reveals both that a variety of approaches can work but also that some approaches, in particular those relying on rote memorization, generate a high risk of failure.

The goal of this introductory chapter is to give an overview of literacy development in children up to age eight. Literacy is the key survival skill for the 21st century, even more than in previous eras when it was possible to find employment and participate in public discourse with limited reading skills. Success in mastering literacy is greatly enhanced for some children by particular experiences and opportunities during early childhood. Research has generated lots of information about what those experiences and opportunities are: both a set of conditions that determine general good physical and mental health (clean water, appropriate nutrition, preventive medical care, protection from violence and other sources of extreme stress), and conditions that are more specifically supportive of literacy and cognitive development (freedom to play, rich language interactions with adults, access to literacy-infused activities mediated by adults). Many questions and challenges in ensuring these propitious circumstances remain, though, especially when we have to make decisions about actual practices to be implemented; when we consider the wide array of domestic circumstances into which children are born, and the variety of linguistic, social, and educational settings in which they learn to read; when we review the disparities across groups within countries and across countries in the degree of success in literacy outcomes, and as we contemplate how even to define literacy in an era when digital forms of text and speech are crowding out traditional modes of distanced communication.

This chapter sets the stage for the chapters that follow, by reviewing some widely accepted claims about literacy development and instruction, previewing some of the variation that arises as a result of both national differences in the organization of early literacy education and language-related differences in the orthographies used to represent speech in print, and considering why we continue to have so much difficulty ensuring universal literacy despite the long history of relevant research and accumulated list of proven practices.

What We Know

Fortunately, early literacy has been a target of research for a very long time, with the result that impressive amounts of knowledge about early literacy development and instruction have accumulated. Some widely accepted conclusions can, thus, be highlighted, with the reservation that these research findings have not yet all fully penetrated the worlds of policy and practice, where many myths and unproductive strategies may still hold sway.

Literacy is a human invention, one that has been around for a very long time but that has rarely been universally distributed. Now that literacy has become a prerequisite for successful participation in the modern, digitally mediated world of distanced communication and high information flow, ensuring universal access to it is a matter of social justice.

Literate forms of communication require a mechanism for rendering speech – an aural stream of phonemes – into print. The way that speech is represented in print is referred to as an *orthography* – a term that incorporates the script (e.g., Chinese characters vs. Japanese syllabaries vs. Semitic abjads or one of the Indo-European alphabets) as well as details of how the script is deployed (e.g., prioritizing one-to-one correspondence of sounds to symbols vs. prioritizing etymological information in the spelling). Different languages are well suited to particular orthographies (e.g., Japanese to the syllabary because the language has a limited set of possible syllables), but in principle any language could be represented in any orthography (see Table 1). English could, for example, be written using a syllabary, but because there are more than 15,000 distinct syllables in English (http://semarch.linguistics.fas.nyu.edu/barker/Syllables/index.txt), it would be a tedious process to develop, teach, and learn such a system. Similarly, Chinese could be written using the Roman

alphabet (as it is when Pinyin is used), but the 26 letters would need to be supplemented with diacritics representing tones, In order to disambiguate segmental homophones. And either English or Chinese could in principle be written using the Arabic script, but the omission of short vowels in the orthography would lead to considerable confusion about how to pronounce many words – confusion that is absent in Arabic because the vowel sequence is determined grammatically. Thus, to some extent orthographic choices are dictated by phonotactic and grammatical features of the language they represent.

<< Insert Table 1.1 here The name *Barack Obama* as it is rendered in 13 widely used languages/orthographies >>.

Each of the language-orthography combinations offers its own learning challenges as well. It is easy to teach young children the principle of representing syllables with graphemes, because syllables are pronounceable and segmentable units. So children understand readily when told, for example, that 'の says no.' The challenges are that there may be many visual forms to distinguish, and that representing syllables not in the language requires inventing a whole new system.

Alphabetic orthographies are more flexible, but can be much harder to 'break into' initially. Helping young children achieve the insight that letters represent phonemes rather than syllables can be difficult. That challenge is the one that leads to considerable emphasis in some instructional systems on explicitly teaching 'phonological awareness,' the ability to treat oral word forms (in which successive phonemes in fact typically overlap and cannot be cleanly segmented) as a sequence of distinct sounds, by engaging in exercises like 'say frog without the fff' or 'let's blend the sounds, what does d—o--g say?'

There is now ample evidence that some training in phonological awareness is useful to children learning to read in alphabetic languages (National Early Literacy Panel, 2008). The form that training takes can vary. Standard approaches include practice in segmenting short words into onsets and rimes, e.g., d-og, l-og, c-og, f-og. While this approach works well in English, in Spanish it works better to segment into nucleus and coda, e.g., pa-n, pa-z, a fact reflected in the time-honored syllabic approach to teaching reading in Spanish (i.e., teaching *ma-me-mi-mo-mu* as the basic units, rather than focusing on initial phonemes), and in the recurrent finding that phonemic awareness in Spanish is more closely related to spelling than to word reading (Denton, Hasbrouck, Weaver & Riccio, 2000; Manrique & Signorini, 1994). In Korean, like in Spanish, the nucleus-coda analysis of syllables is more natural than onset-rime, but Korean-speaking children need only learn to segment at the syllable level, because their alphabetic writing system highlights syllabic units rather than presenting the letters linearly (Kim, 2007, 2008).

Most children learning alphabetic systems also need some explicit help to figure out which letters represent which sounds (though a small number of precocious readers intuit the relations themselves, bootstrapping information from letter names and from reading familiar, frequent words to figure out the larger system, (e.g., Margrain, 2005; Stainthorp & Hughes, 2004). Both efficiency and the demands of age-graded schooling dictate that all children should be given the advantage of some explicit instruction in the details of how to read/spell words. The specific approach (i.e., the sequence of sounds/letters taught, whether one should start with short vowels or long ones, whether students should practice only with text they have already learned to decode or should be reading more challenging text from the start and how much time should be devoted to writing versus reading early in the process) varies greatly within and across

countries/languages, as is clear from contrasting the various instructional strategies outlined in the second section of this volume.

Comprehending text requires that readers can connect print forms to meaning efficiently. Expending considerable effort to decode individual words impedes the construction of sentence or text meaning. A major goal of early reading instruction, then, is to ensure children have enough practice with reading that they can recognize many words automatically and thus read connected text at a rate sufficient to ensure comprehension. *Fluency* is the technical term that refers to reading aloud with adequate speed (about 60 words per minute by end of first grade in the USA), accurately, and with appropriate intonation, pauses, and stress, when reading age-appropriate text. Expectations of speed increase through the first several years of schooling, and of course the texts that are read increase in difficulty over that same period. Oral reading fluency is a quick and easy measure of progress toward success in reading, one that is heavily relied on in widely used measures such as the DIBELS (Dynamic Indicators of Basic Early Literacy Skills; Kaminski & Good, 1996) and the closely related EGRA (Early Grades Reading Assessment; Gove & Cvelich, 2011), which has been promoted by Save the Children and USAID for international use. These measures become distractions, though, when they acquire high stakes and thus become a focus for instruction.

Giving all young students the chance to learn about print and how it relates to the phonological structure of words, and enough practice with reading to become fluent and accurate, will not ensure true literacy and academic success. In order to understand and learn from a text, students must know what the words in it mean, and must have the background knowledge the text presupposes, so they can fit new knowledge into a larger conceptual structure (Snow, Burns & Griffin, 1998). It is entirely possible to learn to read accurately and fluently without access to

meaning, as the activities in thousands of *madrasas* and *chedarim* testify, but if the goal of literacy education is access to learning, then rote memorization is not an effective approach.

Research studies have also generated considerable agreement about the features of young children's environments that generate better language skills, larger vocabularies, and a richer knowledge base. These include access to a sufficient quantity of talk and opportunities for interaction with adults; some families and some early childhood classrooms offer dense language environments, whereas others provide much less language input or opportunities for conversation (Rowe, 2010). In addition to quantity of talk, quality of talk is important: varied vocabulary input that includes some relatively rare or sophisticated words (Tabors, Snow & Dickinson, 2001), conversation about abstract, challenging, non here-and-now topics (de Temple, 2001; Mascareño, Snow, Deunk, & Bosker, 2016), book sharing with attention to the language and the domains of knowledge being presented (Mol, Bus & de Jong, 2009), pretend play as a source of hypotheticals and conditionals (Katz & Snow, 2000), and extended narratives and explanations (Grøver Aukrust & Rydland, 2011; Grøver Aukrust & Snow, 1998). Children who have had access to language interactions with these features are much better prepared to comprehend literate language, whether it is read aloud to them or they read it themselves.

In other words, there is now widespread agreement that learning vocabulary, developing oral language skills, and acquiring knowledge are tasks to be tackled in early childhood and primary settings, and that they are just as important as are the tasks of learning letters, sounds, decoding, and fluency. Despite agreement on this as a principle, there remains considerable disagreement about relative emphasis and prioritization: How much time should be spent on each of the various tasks? How prominently should any of them figure in assessments? Are some particularly important as gatekeepers to or as predictors of longer term literacy outcomes?

Areas of Continuing Contention

The chapters devoted to country portraits in the central section of this volume document enormous diversity in approaches to the practices and the organization of early childhood education and early literacy instruction. In some places literacy-related instruction begins as young as age 3, and in other places not till age 7. In some places mastering letter recognition and letter names is the first important task a child encounters, whereas in other places letter names are never taught, only letter-sounds. In some early childhood programs children begin writing before they can read, and in others writing is introduced only after word reading is well established. This list of differential practices and priorities could be much longer. To some extent, it reflects differences in culture – beliefs about young children and the goals of schooling; to some extent, it reflects the consequences of differences in languages and orthographies. In addition, though, these differences emerge from the unequal access of educators around the world to updated knowledge about the value of early childhood education and about the determinants of quality in early childhood and initial literacy classrooms.

In the English-speaking world the major disagreement within literacy has historically been between those who insist that a solid and systematic foundation of code-focused instruction (letter recognition, phonological awareness, phonics) is valuable for all children and crucial for many, and those who argue that most children will figure out the code on their own, that responsive instruction in letter-sound relationships is more effective than preplanned systematic instruction, and that a rich literacy environment (frequent and regular experiences of being read to, discussing books, engaging in literacy-infused projects) will generate the best literacy outcomes. The 'great debate' (Chall, 1967) between phonics-based and meaning-based approaches has been analyzed as particularly vitriolic for Anglophones because English has one

of the world's deepest orthographies – i.e., a very complex set of multiple mappings from spelling to pronunciation, and from pronunciation to spelling. The phonics-defenders argue that the complexity of the English orthography requires explicit, systematic teaching; the meaning-defenders counter that the system is too complex and abstract to be taught explicitly to young children, who however are capable of inferring the rules with sufficient exposure and meaning-based support. While the phonics versus meaning debate has simmered down, and while educators agree in theory that both are important, there continues to be considerable variation in how much emphasis each of the components receives in the average early childhood classroom in the USA.

The fact is that many children can learn to read under either instructional regime. As noted above, some even learn to read with no instruction, surprising their parents as four-year-olds by asking questions at the breakfast table about the newspaper headlines! Others, in particular those with little exposure to literacy before school entry, no doubt benefit in efficiency and ease from a systematic presentation of how letters represent sounds, and from memorizing and practicing the highly frequent words that deviate from strict decodability (so-called sight words, also taught as 'popcorn' words because they "pop up all the time!"). The challenge is that ultimately children need access both to code-focused and to meaning-focused skills, and that instructional approaches that prioritize the code for low-scoring readers (who are likely to come from less advantaged households) may inadvertently reduce their access to activities that support meaning-making. As a result, slightly better readers get more chances to read connected text, to encounter complex and stimulating text, and to talk about meaning, whereas struggling readers spend more time on worksheets designed to help them master the differences between long and short vowels

or between SH and CH, displaying the essence of what Stanovich (1986) has referred to as the Matthew Effect – the rich getting richer while the poor progress more slowly.

These issues are somewhat less salient in languages with shallower orthographies, where knowing how to pronounce a word provides considerable certainty about its spelling and vice versa. Nonetheless, few orthographies are perfectly transparent. For example, considerable instructional time can be devoted to teaching correct spelling in French (where pronunciation is fully predictable but there are many alternative spellings of some sounds, leading to the ubiquitous *dictée* practice) and Spanish (where accents, diacritics, and minor morphological variations in spelling take up considerable instructional time). Though Arabic and Hebrew are shallow orthographies when introduced to young children with full voweling, children will struggle with the unvoweled forms encountered a year or two later if there has been no attention to meaning (and the associated morphological and syntactic variants) in early instruction. In teaching Chinese, instruction focuses a lot on memorization of the appropriate shape, organization, and stroke sequence for writing characters, but also provides young children with simplified forms for use in reading (the phonetic writing system called zhuyin fuhao in Taiwan, pinyin in China) and in their own writing. Thus, many instructional systems devise compromises between the code- and the meaning-focus.

A second area of continued controversy in the USA is the question of what sort of texts young readers should be practicing with. Some educators and curriculum developers favor the use of 'decodable' texts, texts that avoid irregular, multisyllabic, and low-frequency words, to promote fluency and a sense of success in reading. Hiebert, for example, argues that many reading curricula introduce new words and higher text difficulty too quickly, giving children too little practice to consolidate their word reading skills (Hiebert & Fisher, 2007; Hiebert & Mesmer,

2005). Others have argued that children need exposure to complex text if their own skills are to grow; this is a basic principle in the US Common Core State Standards, which emphasize that about 50% of reading materials during the first grades should be above grade level. Chall (1977) also endorsed the use of challenging texts, arguing that US students' Scholastic Aptitude Test scores were predicted by the complexity of texts used in their classrooms, a conclusion echoed 20 years later by Hayes, Wolfer and Wolfer (1996). The challenge for educators and curriculum designers is to find or devise reading texts that children can comprehend, but that at the same time, stretch their language and analysis skills, and provide supports to ensure that children know how to attack those more difficult readings. Just providing more complex texts to low-level readers will not improve their comprehension skills!

An approach to early reading instruction that is unfortunately widespread in post-colonial schooling, and that might be seen as a solution to the challenge of finding appropriate level texts, involves memorization and recitation of text. This is a method frequently defaulted to when classes are very large, when children have limited access to their own reading or writing materials, when the medium of instruction is unfamiliar to many or all children (and sometimes only partially controlled by the teacher), and in places where teacher education is limited and unreformed. Rote memorization and choral recitation of text written on the blackboard do not add up to an effective or efficient method of teaching children to read – but even in these circumstances some children do figure out enough to make progress in what we would call real reading. The incentives to implement rote memorization are often located in the local assessment systems, which expect children to provide prepared, word-perfect responses to exam questions, and which place little value on deeper understanding of what is read.

We can analyze these various kinds of disagreements as different examples of a single dimension: focus on short-term versus long-term outcomes. It is easy to understand that teachers or school leaders want their students to pass the end-of-year tests or meet the looming age-linked benchmarks. It is relatively straightforward and rewarding to teach young children phonological awareness or letter names, in large part because these are constrained skill domains and children can actually master them. Skill domains like vocabulary or narrative structure are much larger, less well-defined, and thus less likely to reveal children's learning (Snow & Kim, 2006). They are, however, still crucial determinants of long-term literacy success, and likely to be domains of particular challenge for children at high risk of academic failure. So extra emphasis on the constrained skills for those children, at the cost of opportunities to develop language and knowledge, is almost certain to be counter-productive.

There is also considerable variation across schooling systems in the mechanisms used to assess literacy and determine whether children are on track to successful academic achievement. The widespread use of oral reading fluency as an early measure has been noted; in principle that measure is meant to be validated by also asking global comprehension questions about the passage read, but that step is often skipped. Some testing schemes put more emphasis on retelling or explaining the text read, using open-ended oral or written responses. Some schools avoid standardized tests completely for young children, preferring to assess their progress based on portfolios of their written work or of their contribution to small group projects (Davies & LeMahieu, 2003; Hanson & Gilkerson, 1999).

As noted above, post-colonial schooling systems incentivize rote memorization in part because the exams demand it. Assessment and school-improvement policies in the USA under the No Child Left Behind era similarly incentivized a focus on phonics and fluency skills, by identifying

third grade as a key point at which to assess reading outcomes, and by promoting the use of assessments that relied on speed more than depth of processing. Policies intended to support children's literacy development can easily backfire if they are based on simplistic or misguided conceptualizations about literacy.

Conclusion

This chapter tries to make the point that we know quite a lot about literacy development and instruction. At the same time, our knowledge is far from equitably distributed over the domain. There is much more information available about literacy development and support in English than in other languages, about the acquisition of reading in the Roman script than in other alphabets, about alphabetic than other writing systems, and about literacy instruction in relatively rich, first world countries than elsewhere. We know next to nothing about how children learn to read in hundreds of languages spoken in Asia and Africa, nor can we point to models for supporting teachers, designing curricular materials, or organizing literacy instruction that are easily transported beyond the widely studied languages and countries.

We consider some overarching themes relevant to early literacy in the rest of this section of the volume, before turning to a set of country portraits designed to display something of the variety of challenges and approaches to literacy education around the world. The final chapter in this volume returns to the question of what we still need to know – seven issues that deserve particular attention from researchers and practitioners over the next ten years.

Finally, it is important to emphasize that early literacy development and instruction are crucial determinants of children's academic outcomes, but also that 'solving' all the issues and challenges of early literacy will not by itself be sufficient to ensure educational success for all.

Children who read accurately and fluently after their first two-three years of school are on a path that augurs well, but still have much to learn if they are to master the literacy tasks of the 21st century. Getting early childhood literacy right is extremely important, and necessary, but then opens up the challenge of continued instruction to support analysis, critical reading, and ongoing learning.

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