

Journal of Early Childhood Literacy

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Journal of Early Childhood Literacy 2006; 6; 77

DOI: 10.1177/1468798406062176

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**Journal of Early
Childhood Literacy**
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SAGE PUBLICATIONS
London, Thousand Oaks, CA
and New Delhi
VOL 6(1) 77–103

DOI: 10.1177/1468798406062176

Signs of the times: The governance of alphabetic print over 'appropriate' and 'natural' reading development

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Abstract This article investigates the ways in which alphabetic print concepts govern a sense of natural and appropriate early reading development, and juxtaposes the concepts found in early literacy curriculum and assessment with hypertextual elements found in new forms of texts written for children. Using a theoretical approach that combines poststructural theories of power and knowledge with sociocultural theories of literacy, the analysis challenges traditional alphabetic print literacy as a political and historical sign of the times, and reframes educational reasoning about 'appropriate' early reading instruction in terms of new technologies, changing texts, and sociocultural forms of literacies.

Keywords concepts about print; early reading; hypertext; sociocultural literacies; technologies of sign systems

Currently, early reading instruction draws upon traditional forms of alphabetic print literacy, focusing primarily on phonemic awareness, phonics, and the various print concepts used in traditional texts (e.g. left to right, top to bottom). However, in an age when new technologies, new forms of texts, and new literacies flourish, the governance of alphabetic print over curriculum and assessment bears critique.

The purpose of this study is twofold: (1) to investigate the ways in which early literacy curriculum and assessment maintain seemingly permanent notions of 'text' and 'early reading skills' that govern a sense of the natural and appropriate reading development of young children, and (2) to juxtapose instructional concepts about alphabetic print in early literacy curriculum and assessment with hypertextual and intertextual

elements found in new forms of texts written for children. Using a theoretical approach that combines poststructural theories of power and knowledge with sociocultural theories of literacy, the analysis challenges traditional alphabetic print literacy as a political and historical sign of the times, and reframes educational reasoning about 'appropriate' early reading instruction in terms of new technologies, changing texts, and sociocultural forms of literacies.

New literacies and technologies of sign systems: theoretical frameworks

The theoretical frame of this article combines sociocultural theories of 'new literacies' with the theories of power and knowledge embedded in Foucault's use of 'technologies', specifically technologies of sign systems. A combined theoretical approach makes it possible to analyze the ways in which alphabetic print governs early literacy curriculum and assessment, while also scrutinizing the implications of this governance in terms of the sociocultural contexts of new literacies and new technologies. This section describes the various aspects of the theoretical approach before I describe the study in more detail.

New literacies

To scrutinize the implications of the governance of alphabetic print over early literacy curriculum and assessment, I turn to two different ways of thinking about 'new literacies', one paradigmatic and one ontological (Lankshear and Knobel, 2003). First, sociocultural theories of language and literacy (e.g. Cook-Gumperz, 1986; Gee, 1992, 1996; Heath, 1983, 1986; Pérez, 1998; Street, 1984) provide a paradigmatic shift away from psychological theories of literacy learning, where learning to read is thought to happen in the 'head', to an understanding of literacy as always embedded within a social context and purpose for meaning-making, often situated within structures of power (Street, 1993). 'Sociocultural context' is a way of describing the social plane and cultural practices in which the learner and learning are situated (Hammerberg [Hassett], 2004). In part, the environment of the classroom and the purpose of the lesson provide the sociocultural context within which meaning is constructed (Pérez, 1998: 5). But additionally, the sociocultural context of the learning situation is shaped by the experiences, background knowledge, and social/cultural identities that children bring to a learning activity. In this way, sociocultural forms of 'new literacies' involve an understanding that specific codes (like an alphabetic sign system) do not mean anything outside of the context of

the lesson or the social and cultural practices that the children bring to it. Literacy, then, is defined as the construction of meaning from within a sociocultural context (Erickson, 1984; Gee, 1992; Pérez, 1998), and it is not merely something that happens 'in the head'.

Second, in an ontological sense, texts have changed (Lankshear and Knobel, 2003: 16–17), and they look different from traditional print-based texts where graphemes are the primary carrier of meaning. In part a product of new technologies, such as photomechanical printing technologies or digital technologies that allow combinations of sound, print, and images, texts for children today produce a situation where alphabetic print must be understood as only a partial transporter of meaning (Kress, 2003). These kinds of 'new literacies' indicate new ways of reading, writing, interpreting, and interacting (e.g. Burbules and Callister, 1996; Hammerberg [Hassett], 2001; Kress, 1998), and they also indicate the possibility for a shift in the ways we might think about literacy as a school subject (Bearne, 2005).

Both of these theoretical trends, sociocultural 'new literacies' and ontological 'new literacies', lay an excellent foundation for challenging established pedagogy that involves the basics of traditional print literacy. However, from the perspective of research on early reading curriculum and assessment (e.g. National Reading Panel, 2000; National Research Council, 1998, 1999), theories and research that involve new forms of literacies are absent. Educational reasoning about 'appropriate' early literacy instruction focuses primarily on psychological forms of alphabetic print literacy, and any nod toward sociocultural literacies or new forms of texts occurs outside of the basic early literacy agenda.

Technologies of sign systems

To understand how it is possible that basic alphabetic print concepts govern our sense of literacy as a school subject in an age of new forms of texts and new literacies, I borrow Foucault's notion of 'technologies of sign systems', which he defines as the tools and techniques that 'permit us to use signs, meanings, symbols, or signification' (1988b: 18). For Foucault, technologies of sign systems are one of four technologies, including technologies of production, technologies of power, and technologies of the self. Calling each a 'matrix of practical reason' (1988b: 18), Foucault sees these technologies as interrelated; and taken together, they are formative of the reasoning human beings use to organize and develop knowledge. Perhaps most importantly, Foucault offers a way of not seeing this knowledge that we develop as given. Instead, he sees the knowledge that we rely on to reason about daily practices (and often take as given) more as a matter of

'very specific "truth games" related to specific techniques that human beings use to understand themselves' (1988b: 18).

As one of four technologies that we use to understand ourselves, technologies of sign systems function to delineate part of the knowledge we use as 'truth', or the knowledge that functions as a 'truth game', in early literacy education. For example, in the United States, federal definitions of science, reading, and literacy (e.g. the Reading First initiative of the No Child Left Behind Act of 2002) lend a seemingly non-relativistic permanence to early literacy programming and policy. Fixed concepts about alphabetic print, based on these non-relativistic definitions, determine early literacy curriculum and assessment in ways that supersede multiple literacies and multimodal forms of communication, and in ways that intern a system of reasoning about 'natural' and 'appropriate' learning. What happens in the classroom with new technologies or new forms of literacies depends in many ways on residual notions of print literacy, even as the work that we do and the ways that we think are taking on new forms of representation.

In education, then, technologies of sign systems (e.g. the tools and techniques that permit us to practically use the alphabetic sign system in a daily way) shape a larger milieu of understanding, or matrix, within which we might reason about appropriate early literacy practice. This means that technologies of sign systems function as more than just a code to decipher. Instead, technologies of sign systems also function as techniques of administration and regulation (Foucault, 1977; Rose, 1990, 1996), as they construct a matrix of practical reasoning that we use to practically understand and be in the world of teaching and learning. Foucault's theoretical concept of technologies of sign systems makes it possible to understand why we develop knowledge about good literacy instruction in the alphabetic ways that we do, and is useful in describing the specific holds that fundamental and non-relativistic notions of print literacy have over the behaviors, mentalities, successes, and failures of young children learning to read (Hassett, 2006).

It is important to note that Foucault's use of technology involves a different sense of technology from the Frankfurt School notion of instrumental reason, and also a different sense of technology from commonplace notions of inventions, accessories, computers or appendages.¹ While technologies of sign systems form a matrix of practical reasoning in the classroom (i.e. a milieu in which we reason), it is not as if, as a technology, the alphabetic sign system was consciously created as a tool to promote a specific 'vision' of literacy. Instead, using the matrix of reasoning afforded by the technology of an alphabetic sign system is a function of *being* in the reasoning

as it stands, a function of making the matrix of reasoning a 'truth' instead of a 'truth game', a function of living within the discourses of early literacy pedagogy. In this way, my critique of any current practice is a critique of a larger system of reasoning, and my intent is not to critique the theories and practices surrounding alphabetic print themselves. Indeed, alphabetic knowledge remains an important focus in the early grades, and deciphering the code remains an integral part of the multiple sign systems we use to make meaning with new forms of text. Rather, my critique of the larger system of reasoning is meant to shift the reasoning just a bit for the purpose of updating our early literacy theories and practices in light of new forms of texts.

This combined theoretical frame, then, affords an analysis of literacy as a social practice, yes, but also as a social practice that operates as a technology of governance, which constructs, constitutes, disciplines, and constrains students, teachers, curriculum developers, parents, principals, policy makers, and others involved in education. With this understanding, we can then explore how new technologies and literacies set forth a different social context and a different purpose for meaning-making, requiring a different type of reader/writer.

Methods and data sources

The study as a whole is organized into two main sections: (1) an analysis of early literacy curriculum and assessment to determine the ways in which alphabetic print concepts govern a sense of 'natural' and 'appropriate' reading development; and (2) an examination of the early reading concepts assessed in Marie Clay's Concepts About Print task (1972; 1979; 1993a) as compared to the hypertextual elements found in children's literature.

For the first part, I analyze professional development literature around early literacy instruction (e.g. Fountas and Pinnell, 1996), research compilations on the teaching of reading (e.g. Adams, 1996), and national reports and research (e.g. Learning First Alliance, 1998; National Reading Panel, 2000; National Research Council, 1998, 1999) to determine the ways in which alphabetic print concepts govern our sense of 'appropriate' early reading instruction and 'natural' reading development. As one of the best examples of early childhood literacy assessment, I focus on Marie Clay's (1985; 1991a; 1991b; 1993a; 1993b; 1998) research on what children know about the way printed language works. Using the theoretical concept of 'technologies of sign systems' as a lens, I investigate the discursive constitution of 'natural' and 'appropriate' in early literacy curriculum and assessment across three levels of 'truth games' involving technologies of sign

systems: (1) paradigmatic ways of understanding potential success before school; (2) ontological ways of naming 'best practices' in early reading instruction in terms of the text; and (3) pedagogical ways of understanding the student's development in relation to a sign system. My analysis is thus triangulated to consider the constitution of 'natural' and 'appropriate' in terms of experiences before school, textual practices in school, and a student's reading development.

For the second part, I juxtapose elements of early literacy assessment found in the Concepts About Print task (Clay, 1972, 1979), which is used in kindergarten and first-grade classrooms all over the world, with characteristics of texts that have 'hypertextual' or 'intertextual' qualities (e.g. Bolter, 1991; Landow, 1993; Snyder, 1998). 'Hypertext' means that the text contains extensive cross-referencing elements, evocative graphics, various pathways to follow, links to other meanings, and/or parallel displays of information (e.g. Bolter, 1991; Burbules and Callister, 1996; Dresang, 1999; Kress, 1998; Landow, 1993; Snyder, 1998). 'Intertextuality' means that the interpretation of any written text is informed by the reader's own cultural context as well as other texts that the reader has read (e.g. Chandler, 2001; Eagleton, 1983: 12; Foucault, 1974: 23; Kristeva, 1980, 1986). I focus on contemporary children's literature as sites of hyperreading and intertextuality to make it explicitly clear that our inability to accept new forms of reading educationally has less to do with a 'new' medium (these are still actual books with actual pages), and more to do with the way that alphabetic print literacy discourses are maintained in education, despite new social contexts, new reading materials, new technologies, or new purposes for meaning-making. The purpose of the analysis overall is to consider the extent to which current curriculum leaves room for the 'new literacies' discussed in theory (both ontological and paradigmatic), and to name the types of early literacy instruction that will be instrumental in understanding how meaning is made with non-alphabetic sign systems, such as images, graphics, non-linearity, and hypertextuality.

Technologies of sign systems in early reading curriculum and assessment: alphabetic print concepts and the focus of 'natural' learning

The possibility for developing new politics of truth regarding literacy and technology may begin, in many ways, by expanding our notion of 'what counts' in the sign systems of literacy. Currently, early literacy instruction in the United States involves one particular sign system over all others: the full writing system of alphabetic English, which represents the sequence of

speech sounds (phonemes) in words through written symbols or letters (graphemes). This system also uses logographs, such as numbers ('5'), and other symbols that convey how something is to be read, such as punctuation marks (see e.g. the discussion of writing systems in Pérez, 1998: 53–8).

The alphabetic writing system, as a technology of sign systems in early elementary education, can be associated with a kind of domination, in that it governs the general subject matter and curricular choices we have available, as well as the 'appropriate' focus of early literacy programming. In the US, the reason of pedagogical practice in early literacy education is based almost entirely on the sign system of alphabetic print in such a way that the focus of 'natural' reading development is tied to print concepts to the exclusion of other types of signs and symbols. In this section, I demonstrate how current reasoning about literacy instruction ties 'natural' development and 'appropriate' instruction to the sign system of alphabetic English.

Potential success before school

Young children who come to school with a good deal of knowledge about books and how they work will have a better chance of being successful in school (e.g. Bus, 2001; Bus et al., 1995; Sulzby, 1985). The notion of 'success', here, is contained by conventions of a printed sign system, in this case alphabetic English, where successful readers understand that if something is printed, it will have the formalities and protocols inherent in alphabetic English that structure the text written from left to right, top to bottom, with beginnings, middles, and ends. Of course, this is not the case with all scripts, and depending on one's cultural and linguistic background, 'successful' behavior may vary with the writing system. But meanwhile, a considerable amount of educational research revolves around the question of why some students are successful with the formalities and protocols of alphabetic English (e.g. book knowledge) early on, but not others.

The National Research Council reports that 'Children live in homes that support literacy development to differing degrees' (1998: 57), and parents value and use print, books, and writing differently (Bus and van Ijzendoorn, 1997; Bus et al., 1995; National Research Council, 1998; Snow and Ninio, 1986). Young children who are read to frequently will mimic, recite and identify with book language (Adams, 1996; Sulzby, 1985), and some will attend to the letters and words on the page long before school (Backman, 1983; National Research Council, 1998). 'Precocious' young children may actually begin reading, in the conventional sense of the term (Jackson, 1991).

But this is not the case for everyone. Educational research in literacy, then, has outlined and focused on the concepts that children need to learn about print in school, and also before they come to school. The educational goal, of course, is to prevent reading difficulties before they start, and there is an understanding that an awareness of print concepts early on is a precursor to success in reading later (e.g. Johns, 1980). There is an emphasis on the belief that the 'foundation for reading success is formed long before a child reaches first grade' (Learning First Alliance, 1998).

It is important to note that 'success', here, is established through a technology of sign systems that structures how one is to assign meaning to the signs of the alphabetic writing system in order to be seen as potentially literate, even before children come to school. This attaches a notion of 'potential success' to very young children based on behaviors that indicate the 'appropriate' use of books and alphabetic print (e.g. mimicking, reciting, or identifying with book language), and categorizes one type of family and child (e.g. those who attend to letters and words on the page) from another (e.g. those who don't love books). The behaviors, rationalities, likes and dislikes of a 'potentially successful' child or an 'appropriately literate' family, then, are governed by a technology of sign systems, where the tools and techniques needed to hold a book or recite a story appear as more important, more successful, or more appropriate than the tools and techniques needed to engage in other social and cultural life experiences.

The focus of early literacy in school

Yet, because early concepts about print are presently attached to later success in reading, kindergarten and first-grade teachers are often required to find out what their students know about print concepts when they come to school. Marie Clay (1993a; 1998; 2000a), an educational psychologist, developed a Concepts About Print (CAP) task that checks what children know about the way we print language. Clay writes that 'Some of the important concepts that can be tested easily are: the front of the book, that print (not the picture) tells the story, that there are letters, and clusters of letters called words, that there are first letters and last letters in words, that you can choose upper- or lower-case letters, that spaces are there for a reason, and that different punctuation marks have meanings (fullstop, question mark, talking marks)' (1993a: 47). These concepts that can be 'tested easily' through the CAP are the same concepts that dominate early elementary literacy education, as technologies of sign systems train and modify young students toward observable tasks.

The CAP task itself, which we will look at in depth later, consists of little booklets that are read to a child while he or she 'help[s] the examiner by

pointing to certain features as the examiner reads the book' (Clay, 1993a: 47). The student points to text features such as the front of the book, what to read on the page (the print, not the picture), or where to start reading on a line (directionality). The little books of the CAP also contain inverted pictures, inverted words, misordered line sequences, and misordered letter sequences within words. The examiner has a series of questions to ask the student (e.g. point out where to start or which direction to go), and on pages where something is 'wrong' (e.g. upside down) the examiner reads the text as if everything were correct and asks the student what's wrong on the page.

In Clay's own description of the CAP task, the 'systematic observation of young children's progress' (1998: 110) is governed by the extent to which printed sign systems are used and recognized by young students. For example, when Clay writes that it is important for teachers 'to be systematic about locating children who [are] making much slower progress with literacy learning than their classmates' (1998: 110), the 'slowly progressing' students are defined by the inappropriate use of an alphabetic sign system. The 'slower progress' of these students is compared against 'their faster learning classmates' (1998: 110) in a way that assumes that students need to learn certain concepts of print at certain times. If they don't, there is the fabrication of a 'six-year-old (safety) net' (1998: 110, parentheses in original) to assist in their developmental progress. The rate of progress, then, is instrumentally measured through a technology of sign systems (i.e. which aspects of print students know about and focus on). The fact that it is viewed as educationally important for teachers to locate children who are making 'slow progress' indicates the extent to which sign systems regulate what 'appropriate progress' looks like. In the end, 'progress' is governed, in part, by a particular discipline provided by a technology of sign systems.

Natural and appropriate learning

Technologies of sign systems, then, currently tie educational reasoning about success, progress, appropriate mentalities, and so forth, to the sign systems of an alphabetic writing system. The success and progress of students are held in relation to how well they attend to the rules and order of an alphabetic system. Sign systems, therefore, govern how a young learner is to focus his or her attention.

However, beyond governing a student's focus on particular conventions, technologies of sign systems also govern what we think of as 'natural' learning. The CAP task is based on a 1963 research project where Clay watched 5-year-old children read books (naturally), and then she devised some observable tasks to assess (1998: 110). So first, we can think of this

'natural' learning as attached to a particular kind of material product: books, at the time written in 1963, but with textual features that are with us today. Second, the observable behaviors are not necessarily focused on the content or message of the book; they are organized around particular book structures (left to right, top to bottom, front and back). And third, as we're trying to assess that which comes 'naturally' (to some), the actual assessment device takes all semblance of 'natural reading' out. The printed language is almost completely estranged from the symbols that are supposed to represent it. With their up-side-down backwardness to assess right-side-up frontwardness, the symbols used in this task are not meant to be a medium for plot. Instead, they are meant to be a medium for assessing a child's understanding of one aspect of reading: how alphabetic signs and symbols work, not to create meaning, but to create a structure that we call 'text'.²

Early reading concepts that are easily tested and occur 'naturally' (with books) are based on what successful readers know long before kindergarten, yet as a technology, the knowledge of sign systems is consumed as an assessment device with 'unsuccessful' new readers. They are not doing 'naturally' what their 'successful' counterparts have had fed to them since day one in pleasurable, culturally driven home experiences that closely match school-based experiences with sign systems. The rules and order of alphabetic print, then, also govern the appropriate desires and attitudes of individuals themselves. A certain way of valuing, liking, and using print is attached to the sign system as well. Those students who do not have the 'appropriate' (i.e. 'print rich') home life or a love of books are seen as 'at risk' of falling behind their classmates (e.g. National Research Council, 1998), and then monitored via the same technology of sign systems that was 'missing'.

Alphabetic print, then, as a technology of sign systems, provides at least three forms of governance over early literacy education. First, it provides model or standard experiences with the alphabetic sign system before a child comes to school to ensure success later on in school, and governs, for example, a family's 'appropriate' ways of using books and language in the home. This governance can be thought of as paradigmatic, in that psychological theories of literacy learning are the paradigms at work in one of the most social and cultural places: the home. While sociocultural theories of literacy help to describe various social, linguistic, ethnic, economic, and cultural contexts where acts of literacy occur, the acts of literacy deemed 'appropriate' or 'natural' for later school success remain in a psychological paradigm, where meaning lies in the alphabet and is made in the head as if outside of social contexts. 'Appropriate' families work to make that so.

Second, alphabetic print as a technology of sign systems provides a specific focus on concepts of print when the child is in school, governed by the format and protocols of a particular kind of text. This governance can be thought of as ontological, in that the concepts we focus on educationally are the stuff of traditional books: pages, beginnings, ends. While texts have changed in an ontological way, the focus of early literacy instruction is on texts where specific cues for reading can be noticed: the alphabet, its linear placement, and traditional book knowledge. 'Appropriate' teachers work to focus students on those print cues.

Third, alphabetic print as a technology of sign systems provides techniques for defining the student in relation to the alphabetic sign system itself. This governs ways of thinking about appropriate and inappropriate ways of behaving toward print, ways of naming who's learning to read 'naturally' and who is 'at risk', or ways of teaching according to one's development in relation to the sign system. This governance can be thought of as pedagogical, in that the matrix of practical reasoning about early literacy education helps us to form our pedagogies around students' abilities in relation to early print concepts. 'Appropriate' students work to become natural readers.

Before we continue, I want to re-emphasize that nothing is inherently wrong with any of this: we do what we do as a matter of being in the reasoning as it stands. However, with new forms of literacies and new forms of text, our reasoning might need to be governed by technologies of sign systems above and beyond alphabetic print.

Changing elements of children's literature: hypertexts and intertexts

The computerization of type design and the photomechanical printing technologies available today make it possible to combine textual, visual, and verbal elements into new forms of representation that rival the printed word (Kress, 1998). To try to derive a single meaning from these new types of texts would be next to impossible: the storylines are multiple as the possibilities for interpretation multiply; the visual graphics add to the meaning or even are the meaning, but not in a predefined way. Multilinear and multimodal forms of representation compete for readerly attention against linear plots and traditional texts in a multibillion dollar business (Lanham, 2002). Contemporary children's literature is often interactive, producing the need for an interactive reader, through the form, style, graphics, and meaning beyond denotation (Dresang, 1999; Hammerberg [Hassett], 2001). It is colorful, flashy, and full of cues for reading that

extend beyond the letters and words on the page, demanding a sense of interpretation and interaction with the text beyond the decoding of print. To read these texts means to focus on symbols and signs and visual designs, cues often unrelated to the alphabetic writing system of language placed in print. To comprehend these texts means to assume there are multiple meanings, and no one shared reality.

The following discussion provides assessment examples from Clay's (1993a) *Concepts About Print (CAP)* task, followed by an analysis that juxtaposes the element being assessed with a characteristic of an interactive text that expands traditional understandings of how meaning is made from text. Again, I wish to note that the CAP, and any other early literacy assessment or instructional device, exists within a matrix of practical reasoning afforded by the technology of an alphabetic sign system. It is worth emphasizing that the CAP was designed for purposes within this system of reasoning (i.e. it was designed to assess what children know about print concepts, with the understanding that those print concepts occur in books with pages and covers, etc.). In this way, my critique is not of the CAP *per se* because the CAP does everything it is supposed to. Rather, my critique is meant to shed light on the system of reasoning that attaches early literacy education strictly to alphabetic print concepts, with the hope that we might identify additional early reading concepts from examples of hypertextual and inter-textual materials.³

Schematically, I have organized this analysis around the following characteristics of interactive texts:⁴ (1) graphics, imagery, and meaning beyond words; (2) non-linear, non-sequential, and multilayered formats; and (3) multiple perspectives, characters, and subjects (Dresang, 1999). Not all of these characteristics would be found in every interactive text, but every interactive text would require the reader to take an interactive role with the text, by choosing where to focus, how to proceed, how to question, or how to interpret.

Graphics, imagery, and meaning beyond words

While my examples are from children's literature with actual pages and actual covers, many of the changing characteristics of new forms of text can be extrapolated to hypertext in other media, such as the internet, computer programs for children, or video games. Item 1 from the CAP task below tests whether children can locate the front of the book, which would be out of place in other forms of texts, such as websites ('Item 1: show me your home page?'). The majority of this section, however, discusses item 2, which tests the concept that print, not the picture, carries the message.

CAP items 1, 2 (Clay, 1993a: 46)

Say to the child: 'I'm going to read you this story but I want you to help me.'

Item 1

Test: for orientation of the book. Pass the booklet to the child, holding the book vertically by the outside edge, spine toward the child.

Say: 'Show me the front of this book.'

Score: 1 point for the correct response.

Item 2

Test: concept that print, not picture, carries the message.

Say: 'I'll read this story. You help me. Show me where to start reading. Where do I begin to read?'

Read the text to the child.

Score: 1 for print, 0 for picture.

The relationships between images and alphabetic text in much of today's children's literature provide a context for reading in which children must pay attention to more than the printed words (Dresang, 1999: 87–8; Nodelman, 1988). They must also pay attention to graphics and imagery. Traditionally, pictures and illustrations work with printed words by way of agreement, where the words and the pictures explain each other. But they can also contradict each other, as in *The Stinky Cheese Man* (Scieszka and Smith, 1992), where on the book jacket Jon Scieszka's bio is accompanied by a picture of George Washington, while a picture of 'Honest Lane Smith', the illustrator, looks like Abraham Lincoln. The contradiction between texts and pictures requires a smart sense of irony, and a creative sense of humor that is often not addressed in early reading instruction as students are taught the technicalities of basic print concepts.

In texts and literature today, images and printed words can also expand each other's meaning (Kress, 1998). The newest version of *Casey at the Bat* (Bing, 2000), for example, takes Ernest Lawrence Thayer's traditional (and fictitious) ballad, and moves it into historical fiction (or even a history lesson), by weaving artifacts and bits of truth about the nineteenth century into the graphics surrounding the poem. One might prefer to read the images of this text because they carry more information about different things than the poem itself ever did, yet to read the historical 'evidence' alongside or on top of the poem provides the opportunity for a metonymic interpretation: the ability to see relations that you might not have thought of before. To understand the text as a whole, one must read the alphabetic text as well as the graphics and images, which contain meaning beyond the printed words.

The relationship between images and printed text can also be one of synergy (Dresang, 1999: 87–92) where the message must be read through

images-as-text in ways that make it difficult to say where meaning lies, in the words or in the images. One example of synergy in children's literature is Peter Sis's (1996) *Starry Messenger* where the design of an eyeball is created through difficult-to-read scripted print. Dresang describes synergy this way: 'In the most radical form of synergy, words and pictures are so much a part of one another that it is almost impossible to say which is which' (1999: 88). 'Text' becomes a conglomeration of both. Words appear in pictures and over pictures in ways that require a non-literal reading of the printed text, for to only read the words for their literal meaning would be to escape with no meaning whatsoever. The eyeball image, in other words, is as much a party to the overall meaning as the printed text. In contemporary texts, then, the graphics and images are not so much about illustrating the text because images often carry information that is not in the print.

CAP items 16–19 (Clay, 1993a: 47)

Test: punctuation

Read the text. Say: 'What is this for?'

Item 16

Point to, or trace with a pencil, the full stop (period).

Item 17

Point to, or trace with a pencil, the comma.

Item 18

Point to, or trace with a pencil, the quotation marks.

Item 19

Test: capital and lower-case correspondence.

Say: 'Find a little letter like this.'

Point to various capital letters as the student points to lower-case letters.

Score: *Sand*: 1 point if BOTH Mm and Hh are located. *Stones*: 1 point if BOTH Tt and Bb are located.

The way in which the word is printed on the page also can express more meaning than the word itself through typesetting, or the 'look' and 'feel' of the word. Oftentimes, the way the word is printed gives clues to how it might be read aloud or the emotion behind the word. For example, the graphics used in Feiffer's (1997) book *Meanwhile* add meaning to the print itself, and take away the need for some punctuation because of the way that the word is printed on the page. A mother (we presume) is screaming (we presume) 'Raymond!' (1997: 1), but in the book itself there are no quotation marks around 'Raymond', and there is no signifying trailer, like [comma, close quote] 'Mom yelled.' Instead, the size and placement of his name on the page, shaped in a megaphone kind of configuration with

'noise' lines running through it, are signs that let us 'know' that Raymond's mom is yelling his name. Froggy's mom yells his name too, in *Froggy Gets Dressed* (London and Remkiewicz, 1992), in large capital purple letters across p. 7, in orange letters on p. 13, and in red on p. 17. Emotion is carried in these color changes, and the *idea* of yelling is carried throughout. FRRROOGGY! Decoding here does help because we know to draaaaag his name out, and the exclamation mark is important as well, but the visuals and color tell us more about what mom means and her changing degrees of anger. Comprehending mom's meaning requires more than decoding the print, more than recognizing capital and small letters, and more than noticing punctuation. A whole realm of meaning is conveyed through graphics and the way the word is typeset.

To understand the text as a whole, then, one must read the alphabetic text as well as the graphics and images, which contain meaning beyond the printed words. This requires more than a knowledge of the alphabet as if it were font-free, and more than a knowledge of punctuation; it requires also a knowledge of the cultural associations attached to the various ways words can be printed.

Non-linear, non-sequential, multilayered formats

CAP items 3–5 (Clay, 1993a: 46)

Item 3

Test: for directional rules.

Say: 'Show me where to start.'

Score: 1 for top left.

Item 4

Say: 'Which way do I go?'

Score: 1 for left to right.

Item 5

Say: 'Where do I go after that?'

Score: 1 for return sweep to the left.

Questions about where to start and which way to go often do not have 'correct' answers in new forms of text that are non-linear, non-sequential, or multilayered. Instead, there are many possible directions. For example, *Black and White* (Macaulay, 1990) is a picture book with four panels to each two-page spread. Each panel represents a different story, so a reader accustomed to linear sequencing could follow one panel throughout the entire book. But the reader who does so would miss the nuances and connections amongst the panels, thereby missing the (multiple) 'points'. In fact, to

notice the similarities amongst the panels is almost unavoidable and certainly far more interesting: newspapers, cows, train stations, robbers, things that are black and white.

A 'warning' on the title page reads: 'This book appears to contain a number of stories that do not necessarily occur at the same time. Then again, it may contain only one story. In any event, careful inspection of both words and pictures is recommended' (1990: 1). The reader (not the author) decides what to look at and where to go, and to read this book means also to carefully inspect both words and pictures, up and down, diagonally, right, left, back to the right.

Dresang (1999) refers to the type of children's literature that can be read in non-linear, non-sequential ways through reader choice as 'handheld hypertext'. While the term 'hypertext' is most often associated with computer environments instead of children's literature, the principle is the same. By the way the text is structured, hypertext gives readers choices in their reading, and control over where (or whether) to engage in a particular branch of the story.⁵ As Dresang notes, 'Hypertext puts the young reader in the driver's seat' (1999: 63).

The footnotes and endnotes used in traditional texts are forms of hypertext in that a reader can find out more by making a choice to go to the notes. However, contemporary children's literature offers more choices of what to read (and when), because the organization of the images and text on the page are often laid out side by side, on top of each other, or underneath each other, often with several stories or plot lines taking place at once. This makes it possible for readers to rely on their own perspectives and choices to interact with the story as it unfolds in multiple pathways.

CAP items 6, 7, 10, 11 (Clay, 1993a: 46)

Item 6

Test: word by word pointing.

Say: 'Point to it while I read it.' (Read slowly, but fluently.)

Score: 1 for exact matching.

Item 7

Test: concept of first and last.

Read the text to the child.

Say: 'Show me the first part of the story.' 'Show me the last part.'

Score: 1 point if BOTH are correct in any sense, i.e. applied to the whole text OR to a line, OR to a word, OR to a letter.

Item 10

Test: line sequence.

Say: 'What's wrong with this?' (Read immediately the bottom line first, then the top line. Do NOT point.) [The line orders are reversed.]

Score: 1 point comment on line order.

Item 11

Test: a left page is read before a right page.

Say: 'Where do I start reading?'

Score: 1 point for left page indication.

In contemporary children's literature, non-linear and non-sequential textual forms can be achieved in a number of ways: the plot can be presented (using traditional, linear sentences) in non-sequential, time-slipping, timeframes (e.g. Sachar's 1998 *Holes*); the graphically interactive textual organization can produce multiple ways to read the same book (e.g. Macaulay's 1990 *Black and White*); or the information can be presented in 'bytes', such as the Cole and Degan (1992; 1997) *Magic School Bus* series.

In all of these cases, there is no beginning, middle, or end in the traditional sense of story structure, or even in the sense of which words or page to read 'first'. Instead, there are multilayered stories within the stories, as is the case when there are different aspects of the text 'speaking' on the page at the same time (e.g. Henkes's 1990 *Julius, the Baby of the World*). In books where information is presented in smaller chunks or 'bytes', the reader also does not have to read page by page or from front to back. Instead, the information is presented in an encyclopedic format. For example, Beeler's (1998) *Throw Your Tooth on the Roof: Tooth Traditions from around the World* has many different 'entries' about how different cultures handle the issue of losing teeth. In these cases, the reader chooses where to look and focus based on his or her own interests or questioning techniques.

In cases where there are many choices of where to look or read, a social situation is set up for active play with the text, as opposed to sedentary reception of the words and the pages in a particular order. This also suggests a different way of reading to and with children. Acknowledging that the sociocultural context of the classroom is shaped by the experiences, background knowledge, and social/cultural identities that children bring to a learning activity, the kinds of early literacy understandings that are made and negotiated within a lesson depend on the students' individual knowledge resources (e.g. background knowledge, knowledge of skills) as well as identity resources (e.g. cultural identity, cultural practices, cultural tools, perceived significance of the activity). For example, children use decoding or encoding skills (knowledge resources) as they read and write, but they also derive meaning from conversations, interactions, and relationships with teachers and peers (identity resources) (e.g. Au, 1990, 1993). When

books have multiple paths and meanings, interactivity between teachers and students, parents and children, and children and each other are more likely because there are many different cues for reading and pathways to discuss.

CAP items 8, 9 (Clay, 1993a: 46)

Item 8

Test: inversion of picture.

Say: 'Show me the bottom of the picture' (slowly and deliberately). (Do NOT mention upside-down.)

Score: 1 for verbal explanation, OR for pointing to top of page, OR for turning the book around and pointing appropriately.

Item 9

Test: response to inverted print.

Say: 'Where do I begin?' 'Which way do I go?' 'Where do I go after that?'

Score: 1 for beginning with 'The' (*Sand*), or 'I' (*Stones*), and moving right to left across the lower and then the upper line, OR 1 for turning the book around and moving left to right in the conventional manner.

In *The Stinky Cheese Man and Other Fairly Stupid Tales* (Scieszka and Smith, 1992), half of the dedication page is written in huge block print upside down, with a note, right side up saying:

I know. I know. The page is upside down. I meant to do that. Whoever looks at that dedication stuff anyhow? If you really want to read it – you can always stand on your head. (1992: 1)

The upside down oversized font makes for a dedication page that aches to be read, even if on your head, producing an ironic appeal surrounding 'that dedication stuff'. Who ever looks at it? We do, as a matter of visual design, to find that the book 'is dedicated to our close, personal, special friend: (your name here)' (1992: 1).

As opposed to thinking the book is printed 'incorrectly', new forms of children's literature and new forms of text require readers who are actively engaged with making sense of the reading. While the print informs the reader what the upside down text is and will do ('Whoever looks at that dedication stuff anyhow?'), and while the overall upside down design is a direct address to the reader to do something ('you can always stand on your head'), it is still up to the reader to decide when, how, and whether to engage.

Multiple perspectives, characters, and subjects

Absent from the CAP test but something to consider in terms of early concepts for hypertextual reading, are the types of skills needed to read

multiple perspectives on subjects that may not always be familiar territory. Possible book topics today reflect diversity, difference, and complex themes, and children are assumed to be capable of engaging and identifying with difficult content.

Far from being stuck in a first-person narrative, much of today's children's literature takes perspectives that are multiple, open, and uncertain. In books with multiple perspectives, there may not be a final resolution or single answer, since even the author may not know for sure. For example, Fleischman's (1997) *Seedfolks* is one story told by 13 voices about a vacant lot in Cleveland. To read and understand such texts requires negotiating multiple perspectives, and the possible interpretations of the text's meanings multiply.

Many books written for children have more difficult subject matter than the types of texts used in traditional early reading instruction, but these more complex books provide students with a way of thinking through their own lives and learning who they are in relation to others. For example, Eve Bunting's (1994) *Smoky Night* is a children's book about the Los Angeles riots. Here, a subject that would traditionally not be 'appropriate' for a child's book takes full color form. In this book, as in others, the child protagonist is seen as capable of making decisions based on different contextual experiences of right and wrong. Functioning outside of an eighteenth century notion that childhood is an innocent time, many contemporary authors acknowledge that childhood is not always happy, children are not always innocent, adults are not always trustworthy. The possible themes, settings, plots and subject matters of contemporary children's literature reflect the responsibilities, dilemmas, and survival skills of being a child today.

We can consider texts with multiple perspectives, non-traditional characters, and difficult subject matters more 'open' and 'intertextual' than traditional texts because identification with characters and plots can occur on many levels. We can also think of these texts as 'interactive', because there is no single meaning to come away with, and the many possible meanings come from choosing which aspects of the text to pay attention to, identify with, or explore further. In addition, these books require deep conversation about content.

The textual form, the imagery and graphics, the multiple perspectives, the difficult subject matter, the meaning beyond denotation, are all concepts of interactive reading, and with these new characteristics come new and multiple cues for how meaning is to be found, interpreted, and read. The reader takes a different role. So too, we might note, does the teacher, who works to actively help students construct relations between images and text,

readers and perspectives. This is not only a product of technological possibilities with graphics and textual contexts, but also a product of different assumptions about what it is children are capable of doing, knowing, and thinking. Children are assumed to be capable of seeking connections (Dresang, 1999: xxiv), and this assumption is embodied in the characteristics of new texts and new literacies.

Summary and implications

In sum, alphabetic print, as a technology of sign systems, governs ways of reasoning about early reading instruction and natural reading development. The successful progress of students is held in relation to how well they attend to the rules and order of an alphabetic system, but beyond this, the rules and order of alphabetic print govern the appropriate desires and attitudes of individuals themselves. In short, early literacy curriculum and assessment maintain a seemingly permanent notion of reading, writing, and text that is tightly tied to alphabetic print concepts, and that is part and parcel of 'becoming literate' as a young child.

Meanwhile, changes to contemporary children's literature indicate changes to the realm of 'what counts' as important and meaningful in terms of sign systems. To return to Foucault's definition, technologies of sign systems are the tools and techniques that 'permit us to use signs, meanings, symbols and signification' (Foucault, 1988b: 18), and we have seen that meaning often lies in signs and symbols beyond the alphabet and beyond the traditional characteristics of text. Images and graphics, connections and relations among different aspects of the text, and the sociocultural context of the reading itself all add to the possible meanings and pathways that readers might choose. In short, new forms of reading (in an ontological sense) require new types of readers (in a paradigmatic sense), where identity resources mix with knowledge resources to support the reader in making smart and meaningful choices. The idea that meaning is fixed somewhere in the combination of letters on the page and deciphered in the head is not nearly as helpful in situations where meaning needs to be negotiated by thinking heads in social relations.

Therefore, the current hold that alphabetic print concepts have over early literacy curriculum means that we miss a number of key elements of what it means to read interactive, hypertextual, non-linear, and complex texts. This governance of alphabetic print over early literacy instruction means that we are setting up social situations whereby 'appropriate' and 'natural' learning are tied to a limited sign system with limiting social effects. While basic print literacy skills will remain invaluable, the social effects of learning

only basic print literacy are numerous. New demands in a technological society include, for example: the decline of writing in favor of conceptual complexity, imagination, and multimedia design (Kress, 2003); changes in the social relations of work brought about by new technologies (Kalantzis and Cope, 1996); a new work order where *learning* a job is the same thing as *doing* the job, calling for knowledge workers as opposed to people who possess a set of predefined skills (Gee et al., 1996); and cultural and linguistic diversity in communications that will require a pedagogy of multiliteracies (Cope and Kalantzis, 2000).

Poststructural theories of 'truth games', knowledge, and power indicate that the governance of alphabetic print over 'appropriate' and 'natural' reading development is a political and historical sign of the times, part and parcel of living within a matrix of practical reasoning about early literacy as it stands. However, we can shift our reasoning.

Recommendations

To reframe educational reasoning about 'appropriate' early literacy instruction in terms of new technologies, multimodal texts, and new forms of literacies, I would like to make a few recommendations for enacting three basic shifts, which I have discussed throughout: (1) a paradigmatic shift to sociocultural theories of literacy; (2) an ontological shift in the texts we might use; and (3) a pedagogical shift in the definition of an 'appropriate' student. In recommending ways to enact these shifts, below, it might seem that nothing is too terribly earth-shattering, which suggests to me a 'which-needs-to-come-first' quandary: small, non-earth-shattering changes in thinking and practice that *might* eventually lead to a major shift in our educational reasoning, or a major shift in our educational reasoning that *might* eventually lead to minor shifts in our practice. Whether these (or any) small, non-earth-shattering changes would shift our larger matrix of practical reasoning is unknown to me, as is the question of whether new forms of governance afforded by new forms of reasoning would be 'better' or somehow more fair. However, with a sociocultural heart and an open mind, these recommendations might be, at the very least, a start toward modifying early reading instruction toward new technologies, new texts, and new literacies.

First, a paradigmatic shift away from psychological theories of literacy to sociocultural theories of literacy means acknowledging that learning to read requires more than a knowledge of alphabetic print concepts. In order to negotiate the required social interactions of new texts and new literacies, we can begin by assuming that students are capable of seeking

connections among and between possible cueing systems and possible modes of representation, even at a very young age. With guidance, conversations, and support from teachers, parents, and caregivers, children can learn to rely on their identity resources as well as knowledge resources as they pay attention to various aspects of text in the construction of meaning. In short, a shift to sociocultural theories of literacy acknowledges that textual meanings can change and are contextual.

Second, the ontological changes that have already happened to texts indicate that we might open up our notion of 'text' in schools to include non-traditional materials and changing textual forms. Relying on sociocultural theories of literacy, our ways of reading to and with children would change, because the meaning of many of these texts is co-created and negotiated through thinking and conversations, as opposed to a sense that meaning that is 'told' or directed through straight-up linear reading. In addition, a very simple way of retooling early reading instruction would be to rethink what counts in terms of concepts about print with new forms of text, and then update early reading strategies and cueing systems to encompass a greater scope. For example:

- *Print cues*: include graphics, imagery, and typography, since words make up only a fraction of the total text's meaning.
- *Meaning cues*: include textual placement, non-linearity, synergy, and images that represent more than the printed word alone.
- *Structural cues*: include the possibility of mixed genres and dialect cues, the representation of which lie beyond the simple decoding of words.
- *Pragmatic cues*: include a purpose for reading beyond pronouncing the words, reading left to right, or deciphering an author's singular meaning.

Third, our pedagogical techniques for teaching students to read in multiple sign systems can begin by acknowledging that a student's potential for success with reading has more to do with the sociocultural context of the learning situation than the student's knowledge of concepts about print. In other words, attaching a student's desires, attitudes, and potential for success to a limited sign system that is the partial bearer of meaning is fruitless in an age where there are multiple meanings in multiple places. Instead, discussions about the multiple answers, multiple perspectives, multiple interpretations, connections and links can be made, no matter what the student's 'developmental level' is.

Lest any of this *does* seems earth-shattering in an age of restrictive standards and back-to-the basics curriculum, I would like to point out in closing that while technologies of sign systems organize our current system

of reasoning about 'appropriate' literacy instruction and 'appropriate' literate behavior around alphabetic English and traditional textual formats, this has not always been the case. Success, progress, and appropriate mentalities attached to sign systems are signs of this time. When sign systems are considered historically, Myers (1996), for one, has shown that models of pedagogy and practice are contingent upon shifting social needs and shifting social policies even when the same sign system of alphabetic print was being used. In addition, different types of sign systems over time (with spaces, without spaces, with marginal art, without meaning to be 'found') have played different parts in governing historically different habits of reading and writing. Saenger points out that 'As the format of text has varied historically from culture to culture, so, too, have the cognitive skills necessary for its deciphering' (1997: 1). The signs that we take as nearly universal and immutable have undergone many changes before (Graff, 1979, 1987; Saenger, 1997), and the significance currently assigned to particular sign systems may change in the future. So try not to get too attached to the print on this page.

Notes

1. While Foucault switches between the terms 'techniques' and 'technologies' in *Technologies of the Self* as well as in other places (e.g. 1988a: 146; 1990: 11), I wish to keep the term 'technologies' in order to explicate how ways of understanding literacy instruction extend beyond a handful of 'techniques' one can use to make choices in education. 'Technologies', as a term, suggests a manner of training and a sense of power, which helps to explain the seemingly non-relativistic permanence that basic print literacy holds over other forms of literacies or ways of making meaning. Foucault echoes this sentiment by writing that the four major types of technologies are each 'associated with a certain type of domination. Each implies certain modes of training and modification of individuals, not only in the obvious sense of acquiring certain skills but also in the sense of acquiring certain attitudes' (1988b: 18). In other words, the technologies that maintain a dominant form of systematic reasoning about appropriate practice also inform our general senses and attitudes about what good literacy instruction 'is'.
2. Incidentally, the little booklets that have been used in the CAP for nearly 30 years are called *Sand* (1972) and *Stones* (1979), but Marie Clay has more recently published two more: *No Shoes* (2000b) and *Follow Me, Moon* (2000a). The same concepts about print are assessed in the newer booklets as in the old: the only remarkable difference between the old and the new is that the new ones are published in color. But the technologies of sign systems of assessable educational importance have remained unchanged.
3. I also wish to point out that the books I have chosen to illustrate new forms of text are in no way meant to be replacements for early assessment devices such as the CAP. Before we begin assessing early hypertextual knowledge, we need to determine what hypertextual concepts about print are, which is one of my purposes here. More importantly, however, we would need to carefully determine

why or whether we need to assess early hypertextual knowledge at all. Knowing that technologies of sign systems (in whatever form, signs or symbols) govern the behaviors, mentalities, and possible successes of human beings, I would think that teaching hypertextual concepts within sociocultural learning contexts would be more important than assessing them.

4. I am defining 'interactive texts' as those which contain hypertextual or intertextual elements that produce a situation where the reader (not the author) is required to make choices about where to look or how to create meaning from multiple forms of information. The reader cannot passively receive the 'truth' of the text because (1) the text has no singular meaning, and (2) the text's meaning is created through an overt interaction between the reader and various textual elements.
5. Like its computerized counterpart on CD-ROMs, word processing programs, or websites, handheld hypertext contains links to other meanings, various pathways to follow, or parallel displays of information. The difference is that the pathways and parallel displays are contained within a book with covers and pages. Unlike its computer counterpart, handheld hypertext has no 'buttons' to click. Instead, the reader 'moves' around in the text by focusing differently on different textual aspects, or by physically turning the page or the whole book around. And in some ways, perhaps because this kind of hypertext is contained in book form, it provides a different kind of flexibility for 'clicking' with your eyes than hypertext on the computer. After all, the pictures and places to go are not even a screen away, they are right there for your eye to catch.

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