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Defining Instructional Text: Eight Literacy Scholars Discuss Framing and Trade-Offs

© George Hruby

University of Kentucky

© Elfrieda Hiebert

President and CEO of TextProject, Inc.

© Anne McGill-Franzen

University of Tennessee

© Roni Jo Draper

Brigham Young University

© Frank Serafini

Arizona State University

© Kelly Chandler-Olcott

Syracuse University

© J. Greg McVerry

Southern Connecticut State University

© W. Ian O'Byrne

College of Charleston

Correspondence concerning this article should be directed to W. Ian O'Byrne, College of Charleston, 86 Wentworth Street, Office 234, Charleston SC 29424.

Contact: wiobyrne@gmail.com

Abstract

In this article, we explore some of the challenges and trade-offs of defining and conceptualizing instructional text. A richer and more complex definition of literacy requires a complex theoretical framing of the "multiple realities" that exist within this framing of text as it exists in educational research and practice. This theoretical exploration is provided by the framing of text as provided by eight educators and researchers in literacy education. Across their collective definitions of instructional text, there are tensions exposed that impact literacy and pedagogy.

Keywords: Literacy; education; text; instructional text; theory; hypertext

Defining Instructional Text: Eight Literacy Scholars Discuss Framing and Trade-Offs

In the hands of a scholar, the construct of "text" is defined in purposively delimited ways. Typically born of tight theoretical framing, methodological constraints, and instructional focus, our disciplinary definitions of textuality are inherently fragmentary. The nature of literacy is rapidly evolving and these changes demand an expanded view of "text" to include visual, digital and other multimodal formats (Rose & Meyer, 2002; New London Group, 2000; Alvermann, 2002). Misunderstanding and disagreements over these fragmented articulations are perhaps the result of overgeneralization. These challenges and changes make us consider how these text clippings impact the relationships between text and literacy. A richer and more complex definition of literacy requires a complex theoretical framing of the "multiple realities" that exist within this framing of text as it exists in educational research and practice (Labbo & Reinking, 1999).

In this theoretical exploration, we explore some of the challenges and trade-offs of defining and conceptualizing *instructional text*. The evidence of this examination is provided by the framing of text as provided by eight educators and researchers in literacy education. In their collective definitions of instructional text there are tensions exposed that impact literacy and pedagogy. When possible, the URLs to videos of these presentations are listed in a separate section in the reference page. The genesis of this article came from an alternative Pecha Kucha session at a conference of literacy researchers. The assembled researchers presented alternative presentations of their framing of instructional text. It is suggested that you read across these texts (the passages and videos listed in the reference page) and use these perspectives as an opportunity to problematize your own framing of instructional text as well. Please note that the authors took some latitude in the ways in which they examine and problematize this topic of text.

Why Focus on Text?

Texts have traditionally been said to act as linguistic and non-linguistic signs (McHoul, McHoul, & Grace, 2015; Rowe, 1987; Saussure, 1966) requiring interpretation to communicate meaning (Pierce, 1931). These views of text allow for varied elaborations (Bloome & Egan-Robertson, 1993; Fairclough, 1992; Kristeva, 1989). Early work on text in literacy education included research on readability formulas (Brewer, 2019; Fry, 1977), and on instructional texts based on a succession of assumptions about the requirements for necessary reading skills in early readers, leading to a focus on predictable texts (Williamson, Fitzgerald, & Stenner, 2014; Hoffman et al., 1994), decodable texts (Foorman, Francis, Davidson, Harm, M. W., & Griffin, 2004), word recognition texts (Hiebert, 2006), and enriched texts, among others (Hiebert & Mesmer, 2013). Notably, when one of these fragmentary conceptions of text take hold in policy prescriptions, entire programs of reading instruction can come to prohibit complementary approaches (Greenleaf & Hinchman, 2009).

The potential instructional value of manipulated texts has been a consistent focus of debate in the field of literacy education. To an appreciable extent the term *instructional text* has referred to texts specially designed to meet the presumed developmental reading challenges of primary students, with an emphasis on decoding and word-level language comprehension skills. A broader understanding of *instructional text* can indicate any kind of text for fostering classroom learning across grades and content areas, as with textbooks, or that can be employed to that end, as with trade books, or any other kind of text found in popular culture. Current work in literacy scholarship extends the potential use of the term *instructional text* into the realm of online texts, multiliteracies, and smart tools for interactive reading/learning (Anderson-Inman, 2009; Enriquez, 2009). We must consider "text" to be one of the framing elements of literacy

research and instruction. As such, it is interesting to peer into the ways in which varied literacy scholars frame "text" and ask whether the construct is too limited for use in the field.

At the intermediate and secondary levels, educational approaches to the text historically centered around close reading for structural analysis (Wimsatt & Beardsley, 1954), or, alternatively, reader response theories arguing for the literary work as a construction of the reader in response to the text as an object of experience (Rosenblatt, 1938). Simplifying this transactional view on behalf of complication, literacy education scholars often turned to re-specifying which elements most informed textuality (Hartman, 1995) including the text itself (e.g., Halliday & Hasan, 1976), the reader/reading (e.g., Hayes & Tierney, 1982), the writer/writing (e.g., Spivery, 1984), or as cultural and social acts within larger frames of reference (e.g., Baker, 1984; Dyson 1994).

Subsequently, socio-historical (Vygotsky, 1978), sociocultural (Foucault, 1982; Short & Burke, 1996), critical (hooks & Olson, 1994), and poststructural analyses (Barthes, 1975; Deleuze & Guattari, 1987; Eakle & Chavez-Eakle, 2013) have all broadened, complicated, and stretched literacy scholars' thinking about texts and textuality. This has been theoretically enriching even as it has been empirically challenging.

However, outside of the academy, back in the schools, policy has been directly or indirectly driven by the new Common Core State Standards (NGA/CCSSO, 2010), emphasizing a new 5-pillars-plus-close-reading view of texts as containers of meaning to be extracted and learned, with a downplaying of the importance of a reader's prior knowledge, experience, and motivation. Delimiting working constructs of texts in such ways inevitably requires that teachers and scholars finesse challenges ranging from instructional efficacy to differentiation to ecological validity to conceptual precision to logical coherence (Maken-Horarik, Love, &

Unsworth, 2011). Strategic choices made to effectively structure research on/or instruction require careful trade-offs; resources devoted to particular emphases or goals are usually unavailable to also devote elsewhere. Unfortunately, once such focused particularity achieves its specific goal, the instrumental idioms employed are too often elevated to the status of universal principles. Debate ensues, especially when market share, policy control, and ideological conviction are challenged (Shannon & Edmonson, 2011).

Historically, an instructional text was one that had been exaggerated to emphasize what prevailing theories of reading process assumed readers needed to learn to do with a text. For instance, in the case of early grades reading instruction, when syntactic and semantic pattern anticipation and confirmation was considered a crucial explanation of how reading worked, predictable texts were developed for instructional purposes (e.g., *Brown Bear, Brown Bear*; Martin & Carle, 1984; Hoffman et al., 1994). When the prominence of whole language instruction was displaced by a code view of reading, decodable texts became common (e.g., "The fat cat sat on the mat."; Karlin & McInerney, 2011; Foorman et al., 2004). When word meaning began to be emphasized as a crucial gateway to comprehension, enriched texts came to the fore (repeatedly using target words in a text to demonstrate their range of meaningful uses). The exaggerated structure and organization of textbooks to facilitate content comprehension and learning is another example. In each case, a decision was made to construct texts in unusual ways to emphasize presumably key aspects of textuality and thus to facilitate reading instruction and skill development focused on those aspects.

In these adjustments, we must understand that trade-offs are implicit in such decisions. The regular patterned or coded texts downplay the challenges of textual or orthographic irregularity. The repeated use of key vocabulary downplays the challenge of gleaning meaning or

nuance from lexical novelty. These trade-offs also indicate a dichotomy between school texts and life-world or "authentic" texts. This also raises concerns about the reliance on artificial text forms, which seemed to violate a central premise of behavioral conditioning theory (never teach anything you need to un-teach or side-step later; Gagné, 1965).

Eight Examinations of Text

The remainder of this article will focus on the framing of text from eight scholars in literacy education. All of the presenters in this session share a general appreciation for the diversity of approaches to instructional texts within literacy research that have developed over decades. Indeed, the presented authors have been deliberately selected to illustrate that diversity. They also share an acknowledgement that texts and literacy are constructs that are both broader and more fluid than can be comprehensively embraced by any one theoretical position.

These examinations of text were inspired by publications by Serafini (2010, 2011) and a need to examine and redefine text and literacy. More specifically, organizers of the session (Hruby, McVerry, O'Byrne) indicated a desire to bring together a group of literacy educators and researchers to discuss their own personal and professional epistemologies of text. The assembled group of authors compiled these reflections in the form of a Pecha Kucha-style presentation (Beyer, Gze, & Lazicki, 2012) to present at the annual conference of the Literacy Research Association. These Pecha Kucha presentations accompanied written reflections of the materials, and this mixture of text, visuals, and presentation provided a form of grounded, inclusive data visualization (Dong et al., 2010).

Grounded visualization is a mixed methods approach that integrates qualitative and other data points in a manner to visualize the context and content of these processes. Grounded theory generally consists of the collection, coding and analysis of data and strives to build theories from

data grounded in people's lived experiences (Creswell, Plano Clark, Gutmann, & Hanson, 2003; Strauss & Corbin, 1998). Visualization is a broad term that refers to an array of analytic methods that are used to draw insight from data represented in visual forms (Card, Mackinlay, & Shneiderman, 2009; MacEachren & Taylor, 2013). The term `visualization' has been informally used to describe any recently developed novel method for displaying data (Shneiderman,1996) and ranges from the use of paper maps to the use of visually intensive presentations such as the use of PowerPoint in our Pecha Kucha demonstrations. Grounded visualization is an exploratory, iterative approach that allows researchers to recursively utilize multiple perspectives to find connections in lived experiences (Knigge & Cope, 2006).

This exploration of the challenges and tradeoffs of defining and conceptualizing instructional text requires a richer and more complex definition of literacy. In this paper, this exploration is provided by the framing of text as provided by eight educators and researchers in literacy education. Across their collective definitions of instructional text there are tensions exposed that impact literacy and pedagogy. This manuscript is a theoretical piece in which each of the authors arrived at the themes presented by making space for a more emergent approach by allowing the themes to come from the literature, and our individual experiences with instructional text.

We begin with some introductory framing by Author 1 (Hruby). This is followed by Author 2 (Hiebert) on instructional texts for early readers to promote both word and world knowledge. Author 3 (McGill-Franzen) discusses the use of literacy tools and implicit text knowledge in the playful construction of meaning. Author 4 (Draper) utilizes a social semiotics lens to make effective sense and use of textbooks. Author 5 (Serafini) employs a tripartite framework for multimodal text analysis. Author 6 (Chandler-Olcott) discusses the use of

multiliteracies and social semiotics in Physical Education (PE) content literacy. Author 7 (McVerry) theorizes about the radical reconstruction of texts in cloud-based meaning-making. Author 8 (O'Byrne) concludes by identifying how multilieracies-embedded conceptions of text enable his research and pedagogy.

Instructional Exaggeration

Video of this presentation is available in the reference section (Hruby, 2014).[1]

In the world of financial analysis, trade-offs are about the balancing of opportunity costs and the prudent allocation of risk and return. In more abstract domains, such as academic theory, the uses of trade-offs are less concrete, yet can often prove irresistibly restrictive (Rogowski, 1995). Borne and confirming of intuitions of oppositional dichotomy, the idea of duality as a unifying principle is long-standing and culturally pervasive (Thompson & Hirschman, 1995). Matched to the academic requirement for clearly structured argument, the liberating constraint of the trade-off becomes a rhetorical default in need of some interrogation (Spigelman, 2004).

Time and attention are precious resources in our daily workflows, and there is only so much to go around within any given thought space. In this discussion about tradeoffs in theoretical framing, perhaps attention to detail leaves less to devote to organization. Delving for depth in our framing of a construct may also restrict in coverage of breadth. We might also consider that emphasis on structure leaves less of an opportunity to devote to function. In literacy education specifically, what and how we teach and assess often suffers from similar zero-sum calculations (Caldwell, 2007). This means that if we require highly reliable and potentially valid tests for accountability, we wind up testing lower-level skills because such skills are inherently more regular than higher-order critical reasoning and thus potentially reliable as test items (Hamilton, Stecher, & Klein, 2002; Henry, 2007). The Common Core State Standards place an

emphasis on the cognitive and motivational value of prior knowledge and self-interest during pre- and post-reading activity (Pearson, 2013). This reduces the time spent on text elements and their structural cohesion and, based on that, determining what an author might wish to communicate (Hiebert & Mesmer, 2013).

In this examination of the framing of text as a construct, we must consider that oppositional binaries too often demand forced choices, which may often be false choices. Yet relying on such binary oppositions occurs because instructional value often trumps all other decisions. Simple rhetorical structures and rubrics, in thought as in texts, are easily communicated, easily grasped. Thoughtfully employed, they can be a gateway to complexity, subtlety, nuance, and creative deferral of closure. Perhaps the solution in this framing and addressing tradeoff is to use them as cognitive tools rather than truths. This is harder than it sounds, for theoretical constructs about literacy often founder on the intellectual shallows of scientific realism. Yet, this theoretical framing is often complicated. And if it's literacy development, it's really complicated.

Similarly, instructional texts offer an inaugural simplicity as a toehold for the development of a more complex suite of reading skills (Sweet & Snow, 2003). As we develop this starting point, there is also a need to focus on the texts readers will encounter later in life. Early skill acquisition may be simple and amenable to reductive measurement, but over time, students' literacy tool kits expand, diversify, complement, and complicate (Morgan & Ramanathan, 2005). Responses to text begin to be fashioned on behalf of creative effect rather than ease of elemental assessment (Buckingham, Banaji, Carr, Cranmer, & Willett, 2005). Eventually, the rubrics slip away altogether and we realize the range of variance in human populations on anything we might want to conceptualize or measure, both between individuals or

within them over time, is far greater than our capacity to categorize, pair, and contrast (Jenkins, 2014). Over time the diversity of meanings we can make from our texts is only as constrained as our collective imaginations.

Trade-Offs in Early Reading Texts

Video of this presentation is available in the reference section (Hiebert, 2014).[2]

Perhaps the area in which trade-offs in types of texts are least understood—and most needed—is the period during which young children learn to read, especially those whose academic literacy experiences occur primarily in school. A dominant stance in American literacy instruction at the present time is that one type of text is "better" than other kinds of texts (Shanahan & Shanahan, 2008). The books within guided or leveled literacy systems are especially prominent at present in Grades K-1 classrooms (Hoffman, Sailors, Duffy, & Beretvas, 2004). These texts, it is argued, use natural language and are authentic in nature (Fountas & Pinnell, 2009). A typical text at the level designated as mid-first grade (Level F) has a repetitive structure that describes a group of items or actions (e.g., what it takes to grow a garden). The repetition of words and the patterns within words appear to be given less weight than features such as number of words per page and the nature of the text structure (Cunningham et al., 2005).

Decodable texts are much less popular among literacy researchers (Allington, 2013) but often mandated by policymakers. In these texts, a text is deemed decodable if all of the letter-sound elements in the words of a text have been presented in a lesson in the teacher's guide (Stein, Johnson, & Gutlohn, 1999). A typical text at the mid-first grade level from this tradition describes the precedence of letter-sound correspondences over meaningfulness and familiarity to young children (Share, 2008).

In their debates over the merits of one text type over another, literacy educators often

forget that, in any kind of language learning, critical elements are exaggerated for beginners (Fairclough, 1992). For example, when young children are in the critical stages of learning to speak, adults and even slightly older peers speak in an exaggerated register with focused and repetitive vocabulary and short sentences (Steinberg, Nagata, & Aline, 2013). Similarly, in acquiring proficiency in another language process—reading texts—the meaningfulness of the message needs to be central. But the message also needs to exaggerate content that is critical in developing independent reading proficiency (Hiebert, 2006).

There is no evidence that all letter-sound patterns in words need to be taught, that simply providing a lesson on a pattern results in children's acquisition of that pattern, or that numerous exemplars of a pattern are better than repetition of one or two key words with the pattern (Cheatham & Allor, 2012). Indeed, evidence points to children's self-teaching of patterns to the contrary of these assumptions evident in decodable texts (Ricketts, Bishop, Pimperton, & Nation, 2011). Rather than a mid-first-grade text about yawls and taut nets in a fishing text, an alternative text might be about a child walking in the woods with her grandma where they see marks in the mud. They use information from the marks (e.g., sharp claws) to figure out what the animal is. Such texts are carefully crafted to give children opportunities to get new knowledge about the world from text (e.g., information about animal prints) as well as important letter-sound knowledge (e.g., information about complex vowel patterns).

Texts that combine elements from different traditions in early literacy instruction require that literacy researchers recognize that language learning involves trade-offs. Texts that focus only on the storyline or the naturalness of the text ignore the critical role of consistency in the patterns within words for developing automatic word recognition (Adams & Bruck, 1993). Texts that emphasize only word patterns ignore the fundamental function of

meaning in becoming engaged and proficient in reading (Grabe, 2009). To ensure that children get onto the page—and stay there—requires a commitment to texts for beginning readers that support both world and word knowledge.

Text as Unassembled Swing Set

Literary critic Peter Rabinowitz (1987) defined text as an unassembled swing set: "Like a swing set, text is packaged so that it can be put together into a functional whole; the directions may be ambiguous and there may be more than one way to put it together..." (pp. 37-38). A swing set needs to be assembled with tools by a user. Likewise, readers bring tools in the form of rules or expectations to text that enable them to understand it, or in Rabinowitz' words, "to recover the meaning" (p.19). In order to interpret text, readers must come to the text with knowledge of the conventions of literary construction—albeit implicit knowledge—developed through extensive reading. Readers bring a toolbox of interpretive strategies—they must consciously notice the details provided by the author, identify significant patterns within these details, and determine the shape and ultimately, the coherence of the text.

Canonical texts and methodological rereading, as in close reading, necessarily constrain the range of students' reading and the diversity of interpretive strategies at their disposal. In other words, such pedagogy limits both the kinds of texts students read and the means to understand them. "Intensive" reading may be "worthless" if students have not already read a "large and heterogeneous collection of texts" (Rabinowitz, 1992; p. 237). The distinction between "reading just for school" and "reading just for fun" is an artificial dichotomy—and as Rabinowitz (1992) noted, such a dichotomy will "end with models of reading and theories of textuality that either ignore or devalue the kind of reading (and as a consequence, the kinds of books[re: texts]) that engage most readers most of the time" (p.239).

Social Semiotics and Literacy Instruction

Taking a social semiotic perspective on textuality allows us to think about texts as semiotic resources or the actions and artifacts we use to participate in communities like those associated with various disciplines—the sciences, the arts, the humanities, and so on (van Leeuwen, 2005). These semiotic resources include, but are certainly not limited to, sounds, gestures, inscriptions, images, models, and others. However, the meaning made with any given text depends a great deal on how the text is used. Thus, the declaration that a text is instructional has implications for how it is used and the meanings made with it.

For example, we might agree that literacy methods textbooks are instructional texts. Indeed, literacy educators have authored such texts and use them as part of their instructional practice to prepare teachers. The first time I encountered a literacy methods textbook, I did so as a student in an instructional setting. The setting in which I encountered the literacy methods textbook—the context, my purposes—shaped how I used it, what I did with it, what aspects of the text I considered important, and ultimately the meanings I created with the text.

In my work now as a teacher educator, I continue to use literacy methods textbooks. However, I do not use these "instructional texts" to inform my practice as a future mathematics teacher. Instead, I use methods textbooks to engage in my practice as an educational researcher. When I was a pre-service mathematics teacher, I read my content-area literacy methods textbook and used it to create an image of my future classroom. I wrote, "The question becomes—how do I involve students in their reading?" in the margins of my textbook when I used it as an instructional text. Contrast this with the note I wrote in another edition of the same textbook as a teacher education scholar—"Explanation w/o justification. Focus on algorithm"—when using the text to make sense of and critique curricula. The meaning I made with this text resulted in

understanding the problematic way the textbook authors frame mathematics teaching (see Siebert & Draper, 2008). My practices, or literacies, with these texts as a scholar are somewhat similar to those I used as a pre-service teacher (highlighting and annotating). However, similar literacies did not result in similar meaning-making. Moreover, the meanings I have made with the texts as a scholar were not made available to me when I used similar texts for instructional purposes.

Therefore, what determines if a text is instructional is how it is used within a particular setting, with particular people, for particular purposes. So, what are instructional texts? Is the purpose of an instructional text, as it is used in a school setting, to provide instruction surrounding the ideas communicated with it (as when I used literacy methods textbooks as a preservice mathematics teacher), or is the purpose to provide learners practice with the literacies needed to create and use the text (which I have not addressed in this section at all)? Teachers must consider that the way texts are used in instructional settings presents meaning trade-offs to students. Teachers (and the teacher educators who work to prepare them) must realize that often the decision to view a text in a particular way, say as instructional, can limit the reader to particular meanings and communicate to the reader that the text is problematic. Ultimately, we have to wonder if that is our intent as educators when we identify some texts as instructional.

Texts as Multimodal Ensembles

Video of this presentation is available in the reference section (Serafini, 2014).[3]

Texts are no longer, and realistically never have been, simply visual presentations of written language (Stockl, 2007). Traditionally, the concept of instructional text has focused primarily on evaluating and teaching the complexities of written language, paying little or no attention to typography, design features, visual images, or epitextual elements of school-based texts (Hull & Nelson, 2005). Multimodal ensembles are print-based and digital entities that

utilize more than one mode or semiotic resource to represent meaning potentials, where mode is defined as a socioculturally shaped resource for meaning-making (Serafini, 2015). Each mode adds to the complexity of a text and communicates in different ways through different material and semiotic resources. A reconceptualization of text as something beyond written discourse provides a foundation for expanding our views on multimodality and textuality.

Literacy education has been dominated by written language and the medium of the printed text, pushing the teaching of visual images and design elements to the periphery of the literacy curriculum (Kress & van Leeuwen, 2001). If children are to understand how images represent and construct meaning, they need knowledge of the visual meaning-making systems used in their production. Bearne (2003) states, "children deserve to be given the key to translating their inner text making into coherent communications by explicit discussion of variations in the structures, purposes and effects of multimodal as well as written texts" (p.99).

Rethinking one's definition of instructional texts in relation to the above- mentioned considerations, we have to problematize the concept of instructional level in light of the multimodal nature of the texts readers read in school settings. Can we level visual images and picture book illustrations in the same manner as we have leveled written language texts and defined textual complexity? What would a 90-95% accuracy level look like when dealing with a multimodal ensemble? These questions dramatically complicate the concept of instructional text and instructional level.

Using a tripartite framework of perceptual, structural, and ideological perspectives (Serafini, 2010) as a lens for investigating multimodal ensembles, contemporary multimodal texts can be conceptualized as 1) visual objects, 2) semiotic events, and 3) cultural artifacts. This reconceptualization of the nature of multimodal texts from three different perspectives provides a

heuristic for approaching texts and textual complexity.

Considering multimodal ensembles as visual objects focuses our attention on the fact that texts contain visual images, typographical and other design elements, in addition to written language. This forces reading researchers to extend their theoretical framing of text, casting a wider lens to consider work in fine art, semiotics, visual perception, aesthetics, and multimodality in conjunction with traditional reading research. Approaching multimodal ensembles as a semiotic event calls attention to the pragmatic and social contexts of the act of reading. We have to ask under what conditions, settings, and set of expectations would this be an instructional text. We may be better served if we consider the texts used as and in an instructional context, rather than using the word "instructional" as an adjective to describe the inherent characteristics of a textual phenomenon. Finally, considering multimodal ensembles as cultural artifact requires researchers to expand the concept of context to encompass aspects of the reading event (Serafini, 2015). Considering the cultural, economic, political, and historical contexts that encompass how texts are defined and used is crucial to understanding their creation, dissemination, and reception.

As researchers and educators, we need to problematize, if not altogether abandon the assumption that texts can be arranged in a linear sequence of complexity, usually loosely based on some formula that focuses on the number of words, the sentence length, the number of high frequency words as compared with novel words, aligned with some reader's decoding abilities. When we add in visual images, multimodal designs, digital resources and environments, and cultural references, the texts students encounter in contemporary school and out-of-school settings are no longer easily sequenced, evaluated, nor leveled.

Multiliteracies and Historically Constructed Academic Disciplines

Video of this presentation is available in the reference section (Chandler-Olcott, 2014).[4]

Drawing on multiliteracies (New London Group, 1996), I define a text as the result of the process of design drawing on a variety of semiotic resources. This perspective grounds my research and my teaching of a content-area literacy course taken by students in eight certification areas, including physical education (PE), the discipline that has most pushed my thinking about what counts as text.

When I first started teaching this course, I mostly recommended sports- and fitness-related fiction. Students liked those books but were skeptical about their usefulness. Later, I recommended short informational texts from online sources. My lingering concerns about these recommendations were validated by research in disciplinary literacy calling for detailed investigation of the skills and knowledge possessed by insiders (Shanahan & Shanahan, 2008; Moje, 2007). This literature's typical omission of PE, however, caused me to enlist my student Katie, a PE major and manager of the Syracuse men's basketball team, to coach my inquiry into multimodal texts suitable for PE. Together, we analyzed a three-part basketball play—the North Carolina lob, intended for use against the zone defense that Syracuse famously plays—and created an extensive list of basketball vocabulary from the six sentences accompanying the diagrams.

A print-centric conception might have led us to stop there; multiliteracies theory allowed for further analysis (Kingsley, 2010). We made a second list of terms communicated graphically and visually, but not linguistically, by the text (e.g., "key," "offense"). Both of these lists revealed that reading a play requires not just learning new content and vocabulary, but also enacting and embodying that content sequentially and collaboratively, in three-dimensional

space.

Unlike the Common Core State Standards' vision of independent, individual reading, PE's use of text has historically situated reading as a collective process, where texts guide cognition and action (Brown, Collins, & Duguid, 1989). The role of the coach as more capable other (Vygotsky, 1978) is key to scaffolding that process. To construct this insight, I needed a multiliteracies lens to identify the modes and Katie's disciplinary lens to see how the text's elements would work together in practice (pun intended).

But Katie needed me, too. At first, she struggled to see her play reading as literacy at all. Only from our dialogue did we realize that the best way to honor PE's traditions might be to position kids as producers, not just consumers, of multimodal text. Such a stance would mean that we need whiteboards to write plays in the gym more than we need novels or even articles from ESPN.com.

Cloud Reading

Video of this presentation is available in the reference section (McVerry, 2014).[5]

When we are working in an online, hyperlinked environment, a search engine no longer determines what we read. Instead social networking features (i.e., likes, favorites, reactions), shared links, and proprietary algorithms mold our meaning-making, and they play an essential role in what we access across a variety of platforms. Comprehension occurs in the cloud, as we increasingly crowdsource our text construction. Meaning-making is much like a meme (Wiggins & Bowers, 2015). It does not belong to or exist in any one person's head. Just as angry cats and dancing babies spread across the web, the cognitive tools (Scardamalia & Bereiter, 1994) we use for meaning-making get passed around in communities of shared interests (Gee, 2007). This adds layers of complexity beyond self-directed text construction.

Scholars have recognized that reading on the web is different from reading ink-on-paper texts (Leu, Kinzer, Coiro, Castek, & Henry, 2013). Yet early efforts to understand how instructional texts emerge on the web drew heavily on humanist traditions (Cervetti, Pardeles, Damico, 2001) of critical reading (Spache, 1964). This view of self-directed text construction (Coiro & Dobler, 2007) placed the individual at the center of reading and writing the web. From this viewpoint online instructional texts added additional layers of text complexity, requiring us to rethink theoretical models.

Any definition of instructional text must account for the role of socially complex texts in today's literacy practices. I define these as concurrent and recursive artifacts that unfold in digital, print and social media with varying degrees of authority and amplification. These texts are networked and nested within specific online spaces as community members apply layers of meaning and bias in the ways literacy practices are co-created and co-curated. Thus, text complexity can be seen as a matter of links and connections, rather than in terms of lexile measures.

To prepare students for the ever-expanding digital and multimodal world, we need self-programmable readers (Castells & Cardosa, 2006). We need students who are able to move across different spaces, identities, and arguments with network fluidity. Our students do not need to know all the answers; they need to be able to curate texts and share answers while they engage in the inquiry process with others (O'Byrne, 2018).

Embedded Multiliteracies

Video of this presentation is available in the reference section (O'Byrne, 2014).[6]

Even as it can be argued that traditional literacy is changing, the fundamental structure of text is changing as well. Children are inundated by digital media technologies and the new

literacies that accompany them (Sanders & Albers, 2010). These digital texts and tools influence and change the activities that children engage in and ultimately affect their perspectives toward socialization and literacy (Lankshear & Knobel, 2003). Of the utmost concern to educators and parents is how to support younger students as they appropriate these other modalities, including technological modalities (Lankshear, Gee, Knobel, & Searle, 2002), into their repertoire as learners (Merchant, 2003).

As students attempt to execute these traditional reading pathways in postmodern, multimodal texts, other forms of information frequently interrupt them. Kress (2003) sees this challenge as a difference between what the text is showing and what it is telling. This poses challenges for educators who want to teach students how to verbally sequence information, or assess progress in reading or comprehension (Brown, Collins, & Duguid, 1989). Text is something not permeable when found in books, magazines, and newspapers (Barton & Hamilton, 2000). The fundamental building block of text is now viewed as not only a unit of communication but also a discursive element that may take on various forms and modes. Text can be a television show, a music ringtone, an advertisement, a street sign, and similarly diverse manifestations. As educators work to redefine literacy, there is a need to understand and respect the plethora of screen-based texts students encounter outside of school (i.e., video games, movies, 3D movies, immersive websites, chat rooms, images, YouTube movies). In addition to these screen-based texts, there are digital and print texts that seek to blur the lines between screen-based and print-based texts (Wohlwend, 2010).

Educators must identify instructional opportunities to accommodate these shifts in literacy and text and help prepare students to interrogate these texts in their own literate practices (Morrell, 2002). There is an opportunity to use multimodal content and media with young

learners to help them understand connections and critique other forms of text as they read and synthesize across multiple modes of communication. In this process, educators and students may engage in critical literacy (Morrell, 2008), and critical media literacy (Alvermann, Moon, Hagwood, & Hagood, 2018). Educators and students can collaboratively read the word and read the world (Armbruster, 2010) together as they inspect the texts that are utilized in different spaces.

A fascinating element of these varied modes of text includes the children that now grow up having access to, and the opportunity to manipulate the ways in which they read, comprehend, and possibly write or remix text (Bearne, 2003). The challenge for educators is that all instruction focusing on print-based literacy-based practices needs to not only recognize, but also carefully embed, multiliteracies into the curriculum in a way which focuses on analytic and critical thinking about message and medium by constructing and redesigning knowledge structures and semiotic resources. This embedding is achieved by actively encoding and decoding meaning through the use of ever-shifting multimodal, convergent media production tools and resources. Remixing or mashups allow for a rearrangement or reconstruction of online content that is already available online and constructed by others (Williams, 2009). This allows individuals to provide social commentary or critique what is considered "truth" online.

Conclusion

The foregoing contributions strike overlapping themes, even as they offer interesting points of distinction. One underlying theme they share is that choices have to be made about the instructional use of texts, which texts to offer students, on behalf of what activities and developments and for whom; the conceptions of texts we use in our research, and to what purposes; and how we make these decisions. In expanding the definitions of instructional texts,

the authors suggest texts create a space for social, cognitive, and symbolic interaction as much as they are physical, linguistic, or cyber-based objects. Visual images, hyperlinks, and design features only add to the complexity of what constitutes a text, rendering simpler definitions of text inadequate.

In much the same way as we may argue that meaning doesn't reside in the text, our intuitions about what constitutes a "text" itself may no longer reside in the text. When we additionally consider the multifaceted aspects of digital environments, social media, search engines, software applications and animations, the definition of what constitutes a text is loosened and blurred, even as it is enriched. Paradoxically, such elastic lack of clarity doubles back on itself to remind us of the value of simplicity for at least a first pass on comprehension: Trade-offs in action.

Caveats are suggested in the lacunae, although brevity should not be confused with absence. Playing to the interests and motivations of children on behalf of meaning construction may not necessarily lead seamlessly to positive associations or identification with reading in the adolescent years. Extolling the instructional affordances of the new information-communication technologies and multiliteracies can too easily defer rather than address the development of grapho-lexical abilities in students from all socioeconomic strata, not merely the favored. It has yet to be demonstrated that new literacies are indeed as socially, economically, and professionally facilitative of positive social and personal outcomes as many scholars suggest (Lewis Ellison & Solomon, 2018; Sealey-Ruiz & Haddix, 2018; Hale & Reading, 2016). And even as some of these authors locate meaning in readers rather than texts, others place it squarely into the text, although text reconfigured as technical tools and algorithms.

But the eight authors of these epigrammatic observations certainly, if variously, contest

the idea of instructional text as a determinately defined entity, one that is stable and can be easily encompassed within a linear scale for evaluating level of instructional challenge. Whether their reconceptualization focuses on multimodality, digital environments, instructional contexts, or the fractionated, manipulated nature of the texts traditionally used in school settings, these scholars extend our notions of instructional text and remind us of its definitional malleability for particular ends—though often at the diminishment if not exclusion of other ends, the ubiquitous trade-off requiring sagacity as well as proof.

There are multiple opportunities for future research in these areas. These include more research on linking professional learning environments to changes in instructional practice and student learning. This could include examinations of real world text applications in varied learning settings in and out of traditional contexts. This may also include research into new measures and assessments of learning in transdisciplinarity (Popa, Guillermin, & Dedeurwaerdere, 2015). This could include development of authentic assessments that are representative of a diversity of instructional texts available for learners in personal and professional information-seeking behaviors. There are also opportunities to research the design and implement research into a variety of techniques to support educators' professional development. This could involve an examination of the attention and affinity educators at all levels give to varied forms of instructional texts, and the development of varied, diverse perspectives. Finally, there are opportunities to research the exploration and development of technology and new digital literacies in these contexts.

References

Adams, M. J., & Bruck, M. (1993). Word recognition: The interface of educational policies and scientific research. *Reading and Writing*, *5*(2), 113-139.

Allington, R. L. (2013). What really matters when working with struggling readers. *The Reading Teacher, 66*(7), 520-530.

Alvermann, D. E., Moon, J. S., Hagwood, M. C., & Hagood, M. C. (2018). *Popular culture in the classroom: Teaching and researching critical media literacy.* New York, NY: Routledge.

Armbruster, B. B. (2010). *Put reading first: The research building blocks for teaching children to read: Kindergarten through grade 3*. Collingdale, PA: Diane Publishing.

Barton, D., & Hamilton, M. (2000). Literacy practices. In D. Barton, M. Hamilton, & R. Ivanic (Eds.), *Situated literacies: Reading and writing in context* (pp. 180–196). London, UK: Routledge.

Bearne, E. (2003). Ways of knowing: ways of showing–towards an integrated theory of text. In E. Bearne & M. Styles (eds) *Art, Narrative and Childhood* (pp. ix - xxvi). Stoke on Trent, UK: Trentham Books.

Beyer, A. A., Gaze, C., & Lazicki, J. (2012). Comparing students' evaluations and recall for student Pecha Kucha and PowerPoint presentations. *Journal of Teaching and Learning with Technology, 1*(2), 26-42

Brewer, J. C. (2019). Measuring text readability using reading level. In M. Khosrow-Pour, D.B.A. (Ed.), *Advanced Methodologies and Technologies in Modern Education Delivery* (pp. 93-103). Hershey, PA: IGI Global.

Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, *18*(1), 32-42.

Buckingham, D., Banaji, S., Carr, D., Cranmer, S., & Willett, R. (2005). *The media literacy of children and young people.* London, UK: Ofcom. Retrieved from http://discovery.ucl.ac.uk/10000145/[7]

Caldwell, J. S. (2007). *Reading assessment: A primer for teachers and coaches. solving problems in the teaching of literacy.* New York, NY: The Guilford Press.

Card, S. (2009). Information visualization. In A. Sears & J. A. Jacko (Eds.) *Human-computer interaction: Design issues, solutions, and applications* (pp. 181-216). Boca Raton, FL: CRC Press.

Castells M., & Cardoso, G. (2006). *The network society: From knowledge to policy.* Washington, DC: Center for Transatlantic Relations. Retrieved from https://archive.transatlanticrelations.org/publication/the-network-society-from-knowledge-to- policy/[8]

Cervetti, G., Pardales, M. J., & Damico, J. S. (2001). A tale of differences: Comparing the traditions, perspectives, and educational goals of critical reading and critical literacy. *Reading Online, 4*(9). Retrieved from http://readingonline.org/articles/art_index.asp?HREF!/articles/cervetti/index.html

Cheatham, J. P., & Allor, J. H. (2012). The influence of decodability in early reading text on reading achievement: a review of the evidence. *Reading and Writing, 25*(9), 2223-2246.

Coiro, J., & Dobler, E. (2007). Exploring the online reading comprehension strategies used by sixth-grade skilled readers to search for and locate information on the Internet. *Reading Research Quarterly, 42*(2), 214-257.

Creswell, J. W, Plano Clark, V. L., Guttmann, M. L., & Hanson, E. E. (2003). Advanced mixed methods research design. In A.Tashakkori and C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 209–240). Thousand Oaks, CA: Sage.

Cunningham, J. W., Spadorcia, S. A., Erickson, K. A., Koppenhaver, D. A., Sturm, J. M., & Yoder, D. E. (2005). Investigating the instructional supportiveness of leveled texts. *Reading Research Quarterly, 40*(4), 410-427.

Dong, H., Barr, G., Blackburn, E., Grant, M., Piwek, P., Shepherd, P., & Collins, N. (2010, November). Inclusive data visualization: a multidisciplinary approach. In *3rd International Conference for Universal Design* (pp. 10-30). Bath, UK: University of Bath.

Fairclough, N. (1992). *Critical language awareness*. London, UK: Longman.

Foorman, B. R., Francis, D. J., Davidson, K. C., Harm, M. W., & Griffin, J. (2004). Variability in text features in six grade 1 basal reading programs. *Scientific Studies of Reading, 8,* 167-197.

Fountas, I.C., & Pinnell, G.S. (2009). *The Fountas & Pinnell leveled book list, K-8+:2010-2012 Edition, Print Version.* Portsmouth, NH: Heinemann.

Gagné, R. M. (1965). *The conditions of learning*. New York, NY: Holt, Reinhart, and Winston.

Gee, J. P. (2007). Pleasure, learning, video games, and life: The projective stance. In M. Knobel & C. Lankshear (Eds.), *A new literacies sampler* (pp. 95-113). New York, NY: Peter Lang.

Grabe, W. (2009). *Reading in a second language: Moving from theory to practice*. Stuttgart, Germany: Ernst Klett Sprachen.

Hale, A., & Reading, J. (2016). When the personal enables the independent: Taking the library to

the students. *Australian Academic & Research Libraries*, *47*(1), 3-17.

Hamilton, L., Stecher, B., & Klein, S. (Eds.). (2002). *Making sense of test-based account-ability in education.* Santa Monica, CA: Rand Corporation.

Henry, P. (2007). The case against standardized testing. *Minnesota English Journal, 43*(1), 39-71.

Hiebert, E. H. (2006). Becoming fluent: Repeated reading with scaffolded texts. In S. J. Samuels & A. E. Farstrup (Eds.), *What research has to say about fluency instructions* (pp. 204–226). Newark, DE: International Reading Association.

Hiebert, E. H., & Mesmer, H. A. E. (2013). Upping the ante of text complexity in the Common Core State Standards examining its potential impact on young readers. *Educational Researcher, 42*(1), 44-51.

Hoffman, J. V., Sailors, M., Duffy, G. R., & Beretvas, S. N. (2004). The effective elementary classroom literacy environment: Examining the validity of the TEX-IN3 observation system. *Journal of Literacy Research*, *36*(3), 303-334.

Hoffman, J. V., McCarthy, S. J., Abbott, J. Christian, C., Corman, L., Curry, C., Dressman, M., Elliott, B., Matherne, D., & Stahle, D. (1994). So what's new in the new basals? A focus on first grade. *Journal of Reading Behavior, 26*(1) 47-73.

Hull, G. A., & Nelson, M. E. (2005). Locating the semiotic power of multimodality. *Written communication*, *22*(2), 224-261.

Jenkins, R. (2014). *Social identity*. London, UK: Routledge.

Kingsley, K. V. (2010). Technology-mediated critical literacy in K-12 contexts: Implications for 21st century teacher education. *Journal of Literacy and Technology*, *11*(3), 2-39.

Knigge, L., & Cope, M. (2006). Grounded visualization: Integrating the analysis of qualitative

and quantitative data through grounded theory and visualization. *Environment and Planning, 38*(11), 2021-2037.

Kress, G. (2003). *Literacy in the new media age*. London, UK: Routledge.

Lankshear, C., & Knobel, M. (2003). New technologies in early childhood literacy research: A review of research. *Journal of Early Childhood Literacy, 3*(1), 59-82.

Lankshear, C., Gee, J., Knobel, M. & Searle, C. (2002). *Changing literacies*. Buckingham, UK: Open University Press.

Lewis Ellison, T., & Solomon, M. (2018). Digital play as purposeful productive literacies in African American boys. *The Reading Teacher*, *71*(4), 495-500.

Leu, D. J., Kinzer, C. K., Coiro, J., Castek, J., & Henry, L. A. (2013). New literacies: A dual level theory of the changing nature of literacy, instruction, and assessment. *Theoretical models and processes of reading, 6,* 1150-1181. Literacy. New York, NY: Teachers College Press.

MacEachren, A. M., & Taylor, D. R. F. (Eds.). (2013). *Visualization in modern cartography* (Vol. 2). Oxford, UK: Elsevier.

McHoul, A., McHoul, A., & Grace, W. (2015). *A Foucault primer: Discourse, power and the subject.* London, UK: Routledge.

Merchant, G. (2003). E-mail me your thoughts: Digital communication and narrative writing. *Reading, 37*(3), 104-110.

Moje, E. B. (2007). Developing socially just subject-matter instruction: A review of the literature on disciplinary literacy teaching. *Review of Research in Education, 31*, 1-44.

Morgan, B., & Ramanathan, V. (2005). Critical literacies and language education: Global and local perspectives. *Annual review of applied linguistics*, *25*, 151-169.

Morrell, E. (2002). Toward a critical pedagogy of popular culture: Literacy development among urban youth. *Journal of Adolescent & Adult Literacy*, *46*(1), 72-77.

New London Group (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review, 66*(1), 60-92.

O'Byrne, W. I. (2018). Empowering students as critical readers and writers in online spaces. In *Best Practices in Teaching Digital Literacies* (pp. 233-250). Bingley, UK: Emerald Publishing Limited.

Pearson, P. D. (2013). Research foundations for the Common Core State Standards in English Language Arts. In S. Neuman and L. Gambrell (Eds.)., *Reading instruction in the age of Common Core State Standards* (pp. 237-262). Newark, DE: International Reading Association.

Popa, F., Guillermin, M., & Dedeurwaerdere, T. (2015). A pragmatist approach to transdisciplinarity in sustainability research: From complex systems theory to reflexive science. *Futures, 65*, 45-56.

Rabinowitz, P. (1987). *Before reading: Narrative conventions and the politics of interpretation.* Ithaca, NY: Cornell.

Rabinowitz, P. (1992). Against close reading. In M.Kecht (Ed.), *Pedagogy is politics: Literary theory and critical teaching* (pp.230-243). Urbana, IL: University of Illinois Press.

Ricketts, J., Bishop, D. V., Pimperton, H., & Nation, K. (2011). The role of self-teaching in learning orthographic and semantic aspects of new words. *Scientific Studies of Reading, 15*(1), 47-70.

Rogowski, R. (1995). The role of theory and anomaly in social-scientific inference. *American Political Science Review, 89*(2), 467-470.

Sanders, J., & Albers, P. (2010). Multimodal literacies: An introduction. In P. Albers and J. Sanders (Eds.), *Literacies, the Arts, and Multimodality* (pp. 1-43). Urbana, IL: NCTE.

Scardamalia, M., & Bereiter, C. (1994). Computer support for knowledge-building *communities. The journal of the learning sciences, 3*(3), 265-283.

Sealey-Ruiz, Y., & Haddix, M. M. (2018). 21st century new literacies and digital tools as empowering pedagogies for urban youth of color. In *Information and Technology Literacy: Concepts, Methodologies, Tools, and Applications* (pp. 1331-1345). Hershey, PA: IGI Global.

Serafini, F. (2010). Reading multimodal texts: Perceptual, structural and ideological perspectives. *Children's Literature in Education, 41*, 85–104.

Serafini, F. (2011). Expanding perspectives for comprehending visual images in multimodal texts. *Journal of Adolescent & Adult Literacy, 54*(5), 342–350.

Serafini, F. (2015). Multimodal literacy: From theories to practices. *Language Arts*, *92*(6), 412-423.

Shanahan, T., & Shanahan, C. (2008). Teaching disciplinary literacy to adolescents: Rethinking content literacy. *Harvard Educational Review, 78*(1), 40-59.

Share, D. L. (2008). On the Anglocentricities of current reading research and practice: The perils of overreliance on an "outlier" orthography. *Psychological bulletin*, *134*(4), 584-615.

Shneiderman, B. (1996). The eyes have it: A task by data type taxonomy for information visualizations. *Proceedings of IEEE Symposium on Visual Languages*, 336– 343.

Spigelman, C. (2004). *Personally speaking: Experience as evidence in academic discourse*. Carbondale, IL: Southern Illinois Press.

Stein, M., Johnson, B., & Gutlohn, L. (1999). Analyzing beginning reading programs the

relationship between decoding instruction and text. *Remedial and Special Education, 20*(5), 275-287.

Steinberg, D. D., Nagata, H., & Aline, D. P. (2013). *Psycholinguistics: Language, mind and world.* New York, NY: Routledge.

Stöckl, H. (2007). In between modes: Language and image in printed media. In E. Ventola, C. Charles, & M. Kaltenbacher (Eds.), *Perspectives on multimodality* (pp.9-30), Amsterdam, Netherlands: John Benjamins.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research*. Thousand Oaks, CA: Sage.

Sweet, A. P., & Snow, C. E. (2003). *Rethinking reading comprehension. Solving problems in the teaching of literacy.* New York, NY: Guilford Publications.

Thompson, C. J., & Hirschman, E. C. (1995). Understanding the socialized body: A poststructuralist analysis of consumers' self-conceptions, body images, and self-care practices. *Journal of Consumer Research, 22*(2), 139-153.

van Leeuwen, T. (2005). *Introducing social semiotics*. New York, NY: Routledge.

Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

Wiggins, B. E., & Bowers, G. B. (2015). Memes as genre: A structurational analysis of the memescape. *New Media & Society*, *17*(11), 1886-1906.

Williams, B. T. (2009). *Shimmering literacies: Popular culture & reading & writing online*. New York, NY: Peter Lang.

Williamson, G. L., Fitzgerald, J., & Stenner, A. J. (2014). Student reading growth illuminates the Common Core text-complexity standard: Raising both bars. *The Elementary School Journal*, *115*(2), 230-254.

Wohlwend, K.E. (2010). A is for avatar: Young children in literacy 2.0 worlds and literacy 1.0 schools. *Language Arts, 88*, 144-152.

Video of Presentations

Chandler-Olcott, K. (2014). *Multiliteracies & historically constructed academic disciplines.* [Video file]. Retrieved from https://www.youtube.com/watch?v=GSBD93QbvbE [9]

Hiebert, E. (2014). *Trade-offs in early reading texts.* [Video file]. Retrieved from https://www.youtube.com/watch?v=XQdvzR9Nk-0[10]

Hruby, G. (2014). *Instructional exaggeration.* [Video file]. Retrieved from https://www.youtube.com/watch?v=fQPMLH5lkbk[11]

McVerry, J. G. (2014). *Cloud reading.* [Video file]. Retrieved from https://www.youtube.com/watch?v=zyotVVDieFI[12]

O'Byrne, W. I. (2014). *Embedded multiliteracies.* [Video file]. Retrieved from https://www.youtube.com/watch?v=iLF3wnP0gi8[13]

Serafini, F. (2014). *Texts as multimodal ensembles.* [Video file]. Retrieved from https://www.youtube.com/watch?v=MULybpJ8a5c[14]

Author Bio: George Hruby is the executive director of Kentucky's Collaborative Center for Literacy Development and associate research professor of literacy education at the University of Kentucky's College of Education, Department of Curriculum & Instruction. His work focuses on effective literacy instruction, teacher professional growth, and educational neuroscience. His work has appeared in *Reading Research Quarterly, Journal of Adolescent and Adult Literacy, British Journal of Educational Psychology*, and other peer-reviewed journals, as well as several literacy education handbooks and edited volumes. He is an executive editor of *Cognition & Instruction* and is on the editorial review board of several literacy research journals.

Author Bio: Elfrieda (Freddy) H. Hiebert is the President and CEO of TextProject, a non-profit aimed at providing open-access resources for instruction of beginning and struggling readers. Her research, which addresses how fluency, vocabulary, and knowledge can be fostered through appropriate texts, has been published in numerous scholarly journals and books.

Author Bio: Anne McGill-Franzen is Professor Emerita at the University of Tennessee. The focus of her professional work has been on struggling readers - including practice and policy that support or constrain teachers' efforts. McGill-Franzen recently directed a project to build teachers' expertise in early literacy and co-directed a federal longitudinal study to mediate the summer achievement gap in high-poverty minority schools. She is currently replicating the summer book fair study in poor rural communities. McGill-Franzen has been the recipient of several IRA research awards in early literacy and reading disabilities.

Author Bio: Roni Jo Draper, Ph.D. is a professor in the Department of Teacher Education in the David O'McKay School of Education at Brigham Young University where she teaches courses in literacy education, multicultural education, and women's studies. She is a former high school

mathematics teacher and is particularly proud of her work serving students at risk of not completing high school. Currently her research interest has focused on teacher education and the challenge of preparing teachers to support the histories, lives, and futures of all children from all backgrounds. In addition to her work at the university, Roni Jo serves as the vice president of the local PFLAG chapter (PFLAG Provo/Utah County), as the President-elect of the ACLU of Utah, and on the National Board of the ACLU.

Author Bio: Dr. Frank Serafini is a Professor of Literacy Education and Children's Literature at Arizona State University. Frank has published ten professional development textbooks with Heinemann, Scholastic, and Teachers College Press. In addition to his academic publishing, Frank has written and illustrated seven children's picture books, including the Looking Closely Series with Kids Can Press. During his tenure as an educator, Frank has garnered numerous awards, including the Distinguished Professor of Children's Literature from the International Literacy Association, Faculty Teaching Awards at both the University of Nevada, Las Vegas and ASU, and the Bank Street Best Book Award and the Teachers Choice Award for his Looking Closely picture book series.

Author Bio: A former high school English and social studies teacher, Dr. Kelly Chandler-Olcott now teaches English methods and content literacy courses to secondary and K-12 education majors. With support from the National Science Foundation, the International Reading Association, and the Spencer Foundation, she has published six books and nearly 90 chapters and articles, including in such venues as *Reading Research Quarterly, Journal of Literacy Research, Journal of Teacher Education,* and *Teacher Education Quarterly*. In 2015, she began a six-year appointment as co-editor of *Journal of Adolescent & Adult Literacy.*

Author Bio: Dr. Greg McVerry is a scholar and researcher at Southern Connecticut State University and studies learning in open source and networked communities. He received a doctorate in educational psychology from the University of Connecticut as a Neag Fellow serving in the New Literacies Research Lab. Greg takes a participatory research lens to building online communities and is an organizer of the #IndieWeb movement. Dr. McVerry has published and presented dozens of articles and papers in national and international journals. He is involved in many school wide initiatives to improve literacy outcomes using technology. Find him at https://jgregorymcverry.com

Author Bio: Dr. W. Ian O'Byrne is an assistant professor of literacy education at the College of Charleston in South Carolina. His research focuses on the dispositions and literacy practices of individuals as they read, write, and communicate in online and/or hybrid spaces. Ian is the author of many journal articles and book chapters focusing on initiatives ranging from online and hybrid coursework, integrating technology in the classroom, ePortfolio systems, and supporting marginalized students in literacy practices. His work can be found on his website (https://wiobyrne.com/) or in his weekly newsletter (https://digitallyliterate.net/).