Handbook of Research on Learning and Instruction

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Learning to Read

Publication details
Emily Fox, Patricia A. Alexander
Published online on: 14 Oct 2016

How to cite :- Emily Fox, Patricia A. Alexander. 14 Oct 2016, Learning to Read from: Handbook of Research on Learning and Instruction Routledge
Accessed on: 22 Nov 2023

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Our view of learning to read aligns with that expressed by Strang, McCullough, and Traxler sixty years ago: “Learning to read is a lifetime process” (1955, p. 82). Understanding learning to read as a lifelong process has strong entailments in terms of what reading is taken to be. In particular, it means that the nature of reading changes as the reader develops. Further, the view of reading across an entire lifespan necessarily incorporates context. Reading becomes viewed as essentially embedded in the context of the reader’s life and as oriented toward contextually meaningful purposes. When thus contextualized, reading is positioned as a behavior (Russell, 1961) rather than as a skill set or ensemble of processes.

The adoption of this developmental view of reading taken as a behavior complicates how we, as researchers and educators, approach the enterprise of understanding what learning to read involves. It means that any definition of reading that we offer must be broad enough to encompass developmental changes and a variety of modes of contextualized reading behaviors, while still remaining identifiable reading. Our broad definition is: Reading is the complex communicative behavior of deriving meaning from presented text. The corresponding definition of learning to read is: Learning to read is becoming able to participate in the behavior of reading in ways that support one’s purposes and satisfy one’s needs. As the reader’s contextualized purposes and needs change with development, so will the texts encountered, the meanings derived, and the appropriate modes of reading behavior.

Our definitions of reading and of learning to read are intentionally broad to accommodate a wide range of reading behaviors and purposes, from the beginning reader using rhyme to sound out words in a Dr. Seuss book to the adult reading through the materials from the League of Women Voters to decide which political candidate to support. At any age, reading may involve reading engaged in for self-directed learning and for pleasure. Learning to read is both specific to particular developmental moments and also encompasses the entire varied spectrum of contextualized purposes, encountered texts, and requisite reading abilities.
Our characterization of reading as complex means that we view reading as inherently interactive, dynamic, and layered. Explanations of reading, in our view, include discussion of: the layering of multiple systems (themselves also complex and layered), such as perception, cognition, and motivation; the interactions of multiple factors, such as those arising from text, context, and individual; and the continuous adjustments and adaptations within and among these systems and factors. By characterizing it as communicative, we link reading to its predominantly language-based social role in the exchange of ideas and information. By characterizing reading as a behavior, we signal a perspective on reading in which it is viewed as something readers do as part of their lives. We acknowledge that there are many separate aspects of reading upon which an investigative lens can focus and toward which instructional practices can be geared, and there is often good reason to adopt a narrower focus or orientation. However, the foundation and reference point for our investigations of reading must be how it operates within readers’ lived experiences.

In this updated chapter, we consider research from the past ten years on learning to read, again organized around six broad principles for the improvement of reading that reflect a lifespan developmental perspective (Gray, 1951). These principles address: recognition of the changing role of reading as communication practices evolve; broadening of the concept of reading beyond word recognition; acknowledgment that growth in reading continues throughout the lifespan; consideration of students’ developing interests and needs; instruction in domain-specific reading practices; and attention to readers’ individual differences. The review of recent research is preceded by a brief overview of key events and ideas shaping the current landscape in research on learning to read, and a discussion of the theoretical framework behind our view of reading.

**HISTORICAL OVERVIEW**

The lifespan developmental view of reading had its heyday beginning in the 1930s and extending into the early 1960s. Topics of interest to researchers and educators included such areas as the nature of mature reading (Gray & Rogers, 1956), the importance of developing interest in reading and lifelong reading habits (Russell, 1961), and the relation of how reading was taught in school to how it would be used in life (Gray, 1949). There was widespread interest in improving reading, particularly adult reading, with emphasis both on reading rapidly to get through the increasing volume of printed material adults were expected to encounter in the workplace and in their personal lives (Judson, 1954) and on the ability to read to satisfy one’s purposes in gaining knowledge (Adler, 1940).

A confluence of social, political, and theoretical forces (see Alexander & Fox, 2004, 2013) in the late 1950s and early 1960s turned the attention of the field to beginning reading and the processes involved in the successful identification of words. The cognitive emphasis fueled by the emergence of the information-processing perspective in psychology had a role as well in shifting the types of questions asked and explanations sought. Reading processes became compartmentalized into separate strands of research on perception, cognition, motivation, and sociocultural context. This fragmentation of the reader on the one hand and emphasis on word reading on the other meant that the lifespan developmental framework moved offstage, with an appearance in Chall’s (1983) model of stages of reading development but otherwise not much of a role in the work being done in reading.
An influential contribution to the thinking on what is involved in learning to read was the introduction in 1986 by Gough and Tunmer of their simple model of reading. The simple model identifies reading as the product of decoding (measured as ability to pronounce pseudowords) and linguistic comprehension (measured as listening comprehension). In this view, once the reader can decode the individual words, linguistic comprehension enables their assembly into meaningful text. The simple model was intended both to support the key role of decoding in learning to read and to provide an explanation for failure to understand what is read; the reader could fall short in decoding ability, in language comprehension, or in both.

The emphasis on learning to read as a childhood task was reinforced strongly in more recent years by the National Reading Panel (NRP) Report (2000) on teaching children to read. The NRP Report (2000) emphasized the importance of scientific, evidence-based research on how best to teach children to read. It highlighted the key areas of alphabetics (phonemic awareness and phonics), fluency, and comprehension (vocabulary and text comprehension). Phonemic awareness concerns discrimination of basic sound units (phonemes) in speech, while phonics links these sound units to the letters of the alphabet. In the NRP Report, fluency is defined as speed, accuracy, and proper expression in oral reading; vocabulary is word knowledge; and comprehension involves development of an understanding of what is read.

The RAND Reading Study Group offered a more complex and nuanced view of the specific area of comprehension in their 2002 report outlining directions for future research on improving reading comprehension. Their conceptualization of reading comprehension included explicit acknowledgment of the interaction of person-level, text-level, and activity-level factors, embedded the reader in a sociocultural context, and positioned motivation alongside cognition as shaping the course of a given reading experience. They suggested that learning to read well is “a long-term developmental process” (p. 9) in which the meaning of reading well changes at different developmental points, and identified the adult reader and adult purposes for reading as the goals of reading comprehension development. Their approach to reading provided a counterbalance to the emphasis on word reading and access to print, but limited its developmental range by its strong demarcation of the separate areas of beginning reading (up through grade 3) and reading for understanding and to learn (after grade 3).

Another important influence in the field of reading has been the accountability movement initially spearheaded by the passage of the No Child Left Behind Act of 2001 (2002). This nationally mandated program of assessment, with its (unmet) requirement of universal grade-level proficiency in reading by 2014, had originally put the articulation of the markers of appropriate development in reading in the hands of each state’s test developers. However, more recently, with the introduction of the Common Core State Standards developed by the National Governors Association (NGO/CCSSO, 2010), there has been a movement toward a common understanding of the appropriate trajectory of development in reading, ending with students who are cognitively ready for the independent reading demands of career and college. However, the adoption of these standards by the states is in flux, and their implementation is running into some difficulties. One particular difficulty with the emphasis in the CCSS is the treatment of learners as potential economic units rather than as developing individuals with personal goals and needs. The consequences of the great experiment of adopting the CCSS as a foundation to guide instruction are playing out right now for our developing readers and their classroom teachers.
THEORETICAL FRAMEWORK

Our lifespan developmental view portrays reading as a complex communicative behavior that involves deriving meaning from presented text, as changing over the course of development, and as oriented toward the reader’s contextualized purposes. The theoretical framework associated with this view is Alexander’s Model of Domain Learning (MDL), fitted to the domain of reading (Alexander, 2003, 2006). The MDL postulates three stages of development in academic domains: the entry-level stage of acclimation; the mid-level and often terminal stage of competence; and the more rarely achieved highest stage of proficiency or expertise. Each stage has its own typical range of patterns as to the learner’s grasp of and reliance on situational and individual interest, domain and topic knowledge, and surface-level and deep strategic processing.

As outlined by Alexander (2003, 2006) in her discussions of reading development per the MDL, readers in the stage of acclimation do not yet have much breadth or depth of reading-related knowledge. When they read, their strategic processing tends to be superficial and effortful, aiming more at word-level processing or local coherence than at integration of the text with their own understanding. They may respond to surface features of the reading situation or text with interest (situational interest), but this may not result in more effective processing and greater comprehension. Over time and with practice, their interest in reading can increase, their knowledge increases, and their ability to engage in deeper processing increases, leading to a transition to the stage of competence.

The competent reader has a relatively broad store of knowledge about reading (domain knowledge), as well as a certain depth of structured and interconnected knowledge of relevant topics that may be addressed or invoked during typical reading tasks (topic knowledge). The competent reader has also achieved some automaticity in carrying out routine procedures (surface-level processing), and can possibly turn attention to deeper meaning-building, reflective, evaluative, and even transformational strategic behaviors (deep-level processing). Finally, competent readers have a certain level of interest in reading and in learning from text (individual interest). Should the reader pursue learning from and about reading further, the progression to proficiency can occur. Proficient readers are likely to be those who have made the study of reading their profession. Their identity is bound up with the study of the domain and their interest is clearly enduring and internal. Their body of principled knowledge has grown and will continue to grow, and their strategy use is integrative and efficient.

Particular aspects of the MDL framework for reading development are most relevant for our discussion of the empirical research. These include the important role played by the reader’s knowledge, explicit consideration of the reader’s motivation to read and learn from text, and acknowledgement of the interaction of motivation and knowledge in the formulation of reading goals and implementation of reading strategies. The role of practice and automaticity is also addressed by the MDL. Finally, the MDL considers how the reader’s development is part of an overall lifespan developmental trajectory reflecting participation in a variety of discourse communities and pursuit of individual purposes and interests.

CURRENT TRENDS AND ISSUES

Our overview of relevant current literature on learning to read is structured around six foundational principles for improving reading identified by Gray in 1951. His principles are admirably suited for our enterprise of situating the current research base
on learning to read within the particular lifespan developmental perspective afforded by the MDL. These principles are not independent, but relate to a coherent view of reading development, and studies often could legitimately fall under more than one. The articles addressing learning to read that were selected for this updated chapter appeared in peer-reviewed journals from 2006 to 2015. This is naturally not an exhaustive review, given the breadth of our view of learning to read and the extent of the available literature, but rather an attempt to give a picture of trends and findings, the current state of our stories about learning to read.

**Recognizing the Changed Role of Reading**

Gray (1951) began by addressing the need for explicit consideration of changes in the role of reading following upon the emergence of new forms of mass communication and entertainment such as radio, movies, and television. He emphasized the continued importance of reading as a source of information, for the reflective and critical study of personal and social problems, and as a form of vicarious exposure to experience. In our own era, electronic media and communications are the latest source of change. We wonder, as did Gray, what the role of reading becomes as the social and economic landscape shifts yet again with the introduction and infiltration into our daily lives of new forms of communication, information storage, and entertainment (Alexander & the DRLRL, 2012). Studies under this heading addressed the role of reading in the daily lives of adults, investigated students’ management of complex reading tasks, and considered possible changes in reading skills or behaviors associated with the use of new modes of communication and entertainment.

**Adult Reading**

Among the issues associated with an explicit consideration of the role of reading is the important question of how adults use reading in their daily lives, where they are likely to have varied purposes for reading and encounter a variety of types of texts and documents. How well adults can cope with the demands of document use may relate to their familiarity with the documents. Using a constructed index of typical familiarity, level of use, and frequency of encountering a range of document types, Cohen and Snowden (2008) found that adults’ performance in document-related reading tasks on national assessments of adult literacy tended to be higher for document types more likely to be familiar and used regularly.

Adults’ views of the role of reading in their lives (for relaxation or enjoyment, gaining knowledge, or to support participation in conversations) were found to align with their choices of leisure reading material, and therefore their likely further development of familiarity with a range of text types, in a study using survey data from Taiwanese adults (Chen, 2009). Finally, an expanded view of the role of reading in adults’ daily lives was the focus of a small-scale qualitative study of when and why adults read aloud (Duncan, 2015), where reading aloud was found to occur more frequently than might be expected, and to serve different purposes, including memorization, for understanding, and as a way to experience fellowship.

**Managing Complex Reading Tasks**

Some document-related skills have broad utility across educational, personal, and workplace settings, such as the location and identification of information to answer
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questions. Studies of students performing search tasks in complex environments have suggested that document search behaviors represent an additional skill beyond reading comprehension as typically framed. Coiro and Dobler (2007) explored the Internet search strategies of 11 sixth-grade skilled readers in a qualitative think-aloud study, concluding that the additional complexity of searching across the multiple information sources available online required their participants to call upon strategic search and comprehension processes specific to the demands of locating information in an online environment. Such processes included use of knowledge about typical structures of informational websites and rapid cycling through prediction, search, location, and evaluation in managing navigational decisions.

However, more traditional forms of academic experience and domain knowledge have also been shown to be important contributors to digital literacy, over and above technical knowledge of how to access information (Bulger, Mayer, & Metzger, 2014). Bulger et al. (2014) found that academic experience (undergraduate or graduate status) and the use of organizing, integrating processes during an online reading-to-write task were major predictors of the quality of the resulting essay, more so than technical knowledge of how to use a computer, which they argued to be evidence supporting a learner-centered rather than a technology-centered view of digital literacy. Another important learner-related factor in the management of complex reading tasks is the reader’s task awareness and related monitoring and integrative activities (e.g., Goldman, Braasch, Wiley, Graesser, & Brodowinska, 2012). When Goldman et al. (2012) compared learners’ performance and think-alouds during a task involving conducting an online search and writing an essay about the causes of the Mount St. Helens eruption, they found that differences in readers’ judgment of their current understanding relative to what remained to be accomplished seemed to drive many of the identified differences in process and product.

For print text, comprehension when performing search tasks similarly involves maintenance of focus on the question, suppression of irrelevant information, and targeting of relevant information using top-down search strategies (Rouet & Coutelet, 2008). Older students were more successful and faster at print text search tasks in Rouet and Coutelet’s (2008) cross-sectional comparison of third, fifth, and seventh graders, suggesting that search behaviors are complex higher-level skills not routinely available to younger students.

New Media Use and Consequences

Another issue associated with consideration of the role of reading involves the use of new electronic media and modes of communication and its relation to possible changes in reading habits or abilities. Several studies using large-scale datasets have investigated the consequences of extracurricular computer use by high school students. Computer use for fun (e.g., Internet use or social media activity) or for a moderate amount of video game playing by high school students made a positive independent contribution to their reading achievement, according to a recent analysis of 2002 data from the Education Longitudinal Survey (Bowers & Berland, 2013). Two studies using 2009 PISA data suggested that how students spend their extracurricular time online matters. Time spent in online information-seeking had a stronger relation to performance on a digital literacy task than amount of online reading related to social activities (Gil-Flores, Torres-Gordillo, & Perera-Rodriguez, 2012). This relation was found to hold for both print and digital literacy, and to be mediated by students’ knowledge of metacognitive strategies (Lee & Wu, 2013).

Several studies addressed possible negative consequences of using text messaging, but found no apparent ill effects. In studies of pre-adolescents and adolescents, poorer
readers reported more time spent using phones (Coe & Oakhill, 2011; Hofferth & Moon, 2012), but better readers had greater knowledge of textisms (Coe & Oakhill, 2011; Kemp & Bushnell, 2011) and spent more time sending text messages (Hofferth & Moon, 2012). There were no significant differences in literacy skills between students who did or did not regularly use texting (Kemp & Bushnell, 2011).

**Developing a Broad Concept of Reading**

Here Gray (1951) addressed what he saw as the critical need to broaden the understanding of what reading means and what reading development should entail beyond successful word recognition and fluent oral reading. Although he held these to be important elements in reading development, he also stressed that our understanding of reading should include much more, such as reflection, critical evaluation, identification of patterns and relations, accommodation of new ideas, and application (see also Bonney & Sternberg, this volume, on learning to think critically). We would add to this engagement in intertextual reading, and social engagement around text. Studies under this heading addressed broader aspects of reading, including texts as presenting argument and requiring evaluation, interaction with multiple texts, self-regulatory metacognition and monitoring, and peer discussions.

**Argument and Evaluation**

Evaluation of text or its content is one of the higher-order aspects of reading identified by Gray. Within the growing literature pertaining to evaluation of text sources or content within those sources, several rather consistent findings have emerged. Specifically, the ability to judge the credibility of textual sources or to ascertain the viability of claims or evidence forwarded within those sources is often an underdeveloped process and one in need of support or intervention. We see this whether readers are younger or older (Einav, Robinson, & Fox, 2013; Grossnickle, List, & Alexander, 2015), whether the focus is a single text or multiple texts (Wiley et al., 2009), whether texts take the form of scientific reports, newspapers, encyclopedia entries, or blogs (Strømsø, Bråten, & Britt, 2011; List & Alexander, 2015), and whether those texts are presented digitally or in print (Braasch et al., 2009).

Several factors appear to contribute to readers’ more or less effective evaluation of the suitability, credibility, or usefulness of text sources to answer more specific or more open-ended questions. Among those relevant factors are readers’ beliefs about knowledge and knowing that guide their engagement with text sources (Grossnickle et al., 2015; Strømsø et al., 2011) and their understanding of what constitutes viable justification or evidence (List & Alexander, 2015). In terms of text sources, for example, it has been found that even more mature readers do not necessarily distinguish well between more or less credible sources (Strømsø et al., 2011). Rather, when readers are presented with multiple sources, it is often non-epistemic features (e.g., length or appearance) rather than epistemic characteristics (e.g., source credibility) that seem to influence what texts they select or reference (List & Alexander, 2015).

**Multiple Texts**

Most researchers studying multiple-documents comprehension acknowledge that it requires synthesizing, integrating, or reconciling information from multiple sources...
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with the goal of building a coherent mental representation (e.g., Ferguson, Bråten, Strømsø, & Anmarkrud, 2013; Kobayashi, 2014; Mateos & Solé, 2009). Multiple-text situations particularly call for management of content, both in piecing together what is derived from the various texts and in deciding what to access when. This is especially true when the multiple documents address a somewhat controversial, contentious, or debatable issue (Ferguson, Bråten, & Strømsø, 2012; Ferguson et al., 2013) or when the contents of the multiple documents are in conflict (Kobayashi, 2014).

Research on the reading of multiple documents has demonstrated that effectively synthesizing content across texts can be challenging, even for older students (Anmarkrud, McCrudden, Bråten, & Strømsø, 2013; Ferguson et al., 2012). Further, that challenge is exacerbated as the complexity of the texts or the demands of the task are increased (Mateos & Solé, 2009). On the positive side, high-school students and undergraduates do display the ability to distinguish between more or less relevant content or more credible sources as they work with multiple texts (Anmarkrud et al., 2013; Kobayashi, 2014). Based on think-aloud data, these readers also engage with texts strategically as they deal with conflicting information from varying sources (Ferguson et al., 2013). Yet, these students’ ability does not always translate into well-crafted essays or syntheses that convey a deep understanding or careful resolution of textual conflicts (Ferguson et al., 2012; Kobayashi, 2014). Various explanations have been offered for such non-optimal products of multiple-documents comprehension, including the failure to recognize textual discrepancies or a lack of motivation to delve deeply into the texts or task (Ferguson et al., 2013). In particular, the construction of an integrated understanding across multiple conflicting texts on a controversial topic has been found to be related to adolescents’ patterns of strategy use and their level of science reading self-efficacy (Bråten, Ferguson, Anmarkrud, & Strømsø, 2013).

Beliefs about or approaches to hypertext have also been found to matter in what is comprehended and remembered. For instance, McEneaney, Li, Allen, and Guzniczak (2009) found that reader stance toward an expository hypertext was related to both navigation and learning. Those undergraduate and graduate students prompted to consider their own response to the hypertext format (an aesthetic stance) tended to use a more built-in path through the hypertext and also achieved higher ratings for understanding in post-test comparisons than those prompted to direct their attention to the information being presented (an efferent stance). Overall, faster reading rates and simpler paths were seen as readers became more familiar with the content and its arrangement.

Metacognition and Monitoring

The broadening of reading into multiple levels with multiple associated goals means that the monitoring supporting successful attainment of these goals and the forms of metatextual or metalinguistic knowledge guiding the monitoring also expand (see also Veenman, this volume, regarding learning to self-monitor and self-regulate). Children’s metacognition and monitoring in reading were considered in two studies in the recent literature. Kindergarteners were found to be able to monitor their reading and use a limited set of appropriate strategies to some degree, but they were also often not aware of problems with their reading, reported using strategies they were not observed to use, and were generally more strategic when reading nonfiction than when reading stories (Martin & Kragler, 2012). A comparison of the reading behaviors of better and poorer comprehenders (10–12 years old) when reading a story
with inconsistent information about a character revealed that poorer comprehenders updated their situation model for the story when the inconsistent information was presented in close proximity, but not when it was far apart, while the better comprehenders responded strategically to both situations (Schoot, Reijntjes, & Lieshout, 2012). This was taken to imply that better comprehenders were constructing a more richly elaborated situation model, which supported their greater global attention to inconsistent information.

Readers’ self-evaluation accuracy was the focus of two studies. Eme, Puustinen, and Coutelet (2006) compared third and fifth graders on their knowledge of reading skills, tasks, and goals and on their ability to assess the likely correctness of their responses to reading comprehension questions. They found low accuracy in self-evaluation at both grades, and relatively little in the way of verbalizable knowledge about reading, with a slight trend for fifth graders to know more. Although self-evaluation and comprehension were independent, better comprehenders tended to have greater knowledge related to reading.

Self-evaluation was also investigated in a study of older students (15- and 16-year-olds) that looked at its connection to students’ reading pattern while reading an expository text, the level of the question asked about the text, and comprehension ability (Minguela, Solé, & Pieschl, 2015). More skilled readers were more accurate in their evaluations of the correctness of their responses to post-reading questions and were more likely to have read in a nonlinear, flexible manner. Reading pattern (taken as an indicator of self-regulated reading) predicted performance on deep-level comprehension questions, while accuracy of self-evaluation predicted performance on surface-level comprehension.

Peer Discussion and Collaboration

What readers know and can communicate about reading can emerge directly or indirectly in their discussions about text with other readers (see also Murphy, Wilkinson, Soter, & Firetto, this volume, on discussion as an instructional approach). Reading comprehension strategy use during group discussions was investigated for ninth graders (Berne & Clark, 2006) and fifth graders (Clark, 2009). Ninth graders most often used comprehension strategies related to interpretation or questioning, but generally appeared to lack a planful approach to developing understanding of the text together (Berne & Clark, 2006). Common strategies used by fifth graders also included questioning and interpreting (Clark, 2009). Clark found that students of different reading abilities did not differ in patterns of strategy use; however, the quality of strategy use did vary, and post-discussion comprehension tended to reflect more the contributions of the better readers. Students’ use of interpretation and questioning in group discussions was also addressed in a case study of elementary school children discussing stories (Maine, 2013), where it was found that children tended to discuss the texts in an open way that created room for hypothesizing, deep questioning, and multiple interpretations. They were willing to maintain possibilities rather than driving for answers and worked together to build meaning, a pattern that was contrasted to the typical course of a teacher-led discussion of text.

Collaborative strategy use was the focus of a study of middle schoolers working in pairs to read and discuss expository texts (Davis & Neitzel, 2012). Strategy use was low overall, and students used different strategies for print and digital texts. Collaborative engagement in the relatively low-level strategies of monitoring word recognition and
summarizing was positively related to students’ performance on a recall-based measure of text comprehension.

Accepting the Idea that Growth in Reading Is a Continuous Process

In discussing the continuous nature of growth in and through reading, Gray (1951) highlighted both the changes in what is demanded in the way of reading competence as readers progress into higher levels of schooling and readers’ continued growth into adulthood in underlying aspects of reading such as vocabulary and comprehension of meaning, those labeled by Paris (2005) as unconstrained skills. Gray strongly emphasized the need for systematic instructional support for reading into the higher grades and on into college. Mastery of earlier stages of reading does not guarantee competent reading when pursuing new interests, addressing new problems, and facing new demands for interpretive depth or reflective and critical response. We add to Gray’s emphases the challenges now presented by the expectation that most students will finish high school and attend college.

There has not been much recent attention given explicitly to understanding growth in reading into and beyond high school, although this situation may change with the introduction of the CCSS (NGO/CCSSO, 2010), which have an implicit underlying developmental trajectory supporting the identification of particular reading objectives for each grade level through the end of high school and aiming for career and college readiness at that point. On the other hand, there has been extensive research in recent years on early reading development and on the early determinants of subsequent reading performance. Of particular interest have been the predictors of and connections between word reading and comprehension of connected text. Studies under this heading looked at primarily cognitive factors related to growth in reading using cross-sectional or longitudinal designs, and focused on word reading, reading comprehension, or both.

Growth in Word-Level Reading

In studies addressing factors related to growth in the ability to decode words, development in word reading was found to be related to: concept of a word in print (Flanigan, 2007); sensitivity to orthographic regularities (Rothe, Schulte-Körne, & Ise, 2014); rhythm (David, Wade-Woolley, Kirby, & Smithrim, 2007); letter knowledge, phonemic manipulation, and Rapid Automatized Naming (RAN; Lervåg, Bråten, & Hulme, 2009); verbal inhibitory executive function skills (Foy & Mann, 2013); and phonological awareness, orthographic knowledge, and morphological awareness (Roman, Kirby, Parrila, Wade-Woolley, & Deacon, 2009). Particular aspects of memory were also found to matter for development of word reading or decoding, including phonological memory (digit span; Brunswick, Martin, & Rippon, 2012); short-term memory for serial order (Perez, Majerus, & Poncelet, 2012); working memory, as mediated by phonological awareness (Preßler, Könen, Hasselhorn, & Krajewski, 2014); and the capacity to temporarily bind auditory verbal information and visual information in working memory (Wang, Allen, Lee, & Hsieh, 2015).

While greater separability of the different constructs composing word reading speed was observed for older children (Lervåg et al., 2009), the contributions of orthographic knowledge, morphological and phonological awareness to word reading appeared to be stable across the three ages measured by Roman et al. (2009). The role of phonological processing in word reading also appeared to be consistent for readers in grades
1–5, while the importance of coarse-grained orthographic processing grew as students gained reading experience (Ziegler, Bertrand, Lété, & Grainger, 2014). However, a shift over time in the relative contributions of phonological awareness and RAN to fluent and accurate word reading was observed by Vaessen and Blomert (2010) using a larger range of levels of reading experience, with phonological awareness more important for younger readers.

Finally, a twin study investigated the relative contributions of genetic and environmental influences to growth in word identification and pseudo-word decoding (Petrill et al., 2010). Environmental influences were found to be responsible for 100% of the variance in growth in word identification and decoding, while genetic influences were evident in the variability in baseline levels of performance.

Growth in Reading Comprehension

There appears to be relatively strong stability in individual differences in reading comprehension development. In a large-scale longitudinal study of Dutch schoolchildren from first through sixth grade, Verhoeven and van Leeuwe (2008) found that children’s initial scores for listening comprehension and vocabulary strongly predicted their later development in reading comprehension, with individual differences remaining stable throughout the course of the study. In a longitudinal twin study, stability in reading achievement scores appeared to relate substantially to genetic influences (Harlaar, Dale, & Plomin, 2007), with new age-specific genetic influences appearing at each age studied, possibly related to the differences in what was expected in the way of reading. However, a study of the relation of vocabulary knowledge and growth in reading comprehension from first to fourth grade found that high performers grew faster than low performers for both, while level of vocabulary knowledge predicted growth in reading comprehension, but not vice versa (Quinn, Wagner, Petscher, & Lopez, 2015).

The importance of the development of automaticity for growth in reading comprehension was investigated in a cross-sectional study of third, fifth, and seventh graders (Walcyzk et al., 2007), in which older students tended to compensate more efficiently to prevent and resolve confusions when reading, while level of efficiency enabled students to cope more effectively with restrictive reading situations, such as the time pressure often involved in reading assessments. Speed, accuracy, and automaticity of oral word reading were found to predict reading comprehension for first, second, and third graders, but had diminishing influence with age (Schwanenflugel et al., 2006). Silent reading fluency, as measured with a maze task, was similarly found to predict later reading comprehension for third through tenth graders and to have decreasing influence with age (Kim, Petscher, & Foorman, 2015). A developmental shift in the relative importance of fluency as a predictor of reading comprehension was also found by Tighe and Schatschneider (2014) in their cross-sectional study of third, seventh, and tenth graders, such that reasoning skills overtook fluency as the dominant predictor of reading comprehension for the tenth grade students. Reasoning skills were seen to be important for reading comprehension even in younger readers in a longitudinal study of 4–6 year olds (Silva & Cain, 2015), where inference skills, literal comprehension of a picture book narrative, and grammar skills at 4 years old made independent contributions to later reading comprehension.

Meaning-based factors in reading comprehension growth were explored in a cross-sectional study of children’s comprehension of narratives, where it was found that sensitivity to underlying narrative structure increased with age (Lynch et al., 2008).
although even the youngest participants showed awareness of narrative structure. Increases with age were also seen for the ability to answer different types of questions about the text (literal, inferential, integrative, and metatextual), with older readers better able to consider different perspectives (Kaplan, 2013).

Finally, a meta-analysis of the contribution of print exposure to reading comprehension (Mol & Bus, 2011) found that across grade levels from preschool through college, level of print exposure was consistently correlated with reading comprehension, and explained an increasingly large share of the variance for oral language skills, reaching 34% for university students.

### Distinguishing and Relating Word Reading and Comprehension

Recent studies exploring the determinants of growth in word reading and reading comprehension were generally consistent in finding that different sets of factors predicted growth in these two aspects of reading. For example, Oakhill and Cain (2012) investigated longitudinal predictors of reading comprehension and word reading accuracy, and found that different skills predicted the development of each. Early vocabulary, verbal IQ, monitoring, and knowledge of story structure were predictors of later comprehension, while early measures of phonemic awareness predicted later word reading accuracy. Independent predictors of growth in reading comprehension included semantic skills (Vellutino, Tunmer, Jaccard, & Chen, 2007); performance IQ by itself (Kershaw & Schatschneider, 2012) and a composite measure of performance and verbal IQ (Hulslander, Olson, Wilcutt, & Wadsworth, 2010); working memory and general processing speed (Christopher et al., 2012); and vocabulary, which had a reciprocal developmental relation with comprehension (Verhoeven, van Leeuwe, & Vermeer, 2011). Processing speed was found to be more important than working memory for predicting word reading, although both made significant independent contributions (Christopher et al., 2012).

A number of studies of the development of word reading and comprehension were explicitly based on or testing predictions from the Simple View of Reading (SVR; Gough & Tunmer, 1986), where reading comprehension is taken to be the product of decoding and oral language comprehension. In particular, the possibility of additional components beyond those two was investigated by Ouellette and Beers (2010), who found that even when controlling for other relevant predictors, including listening comprehension, oral vocabulary made a contribution to explaining the variance in reading comprehension for older (grade 6), but not younger (grade 1) children; vocabulary also predicted decoding in grade 6 and irregular word recognition in both grades. Another possible additional component, knowledge of the morphological structure of words, was the focus of two recent studies, which found that knowledge and abilities related to morphology are associated with the development of word reading and reading comprehension. Early growth in morphological processes was found to predict later growth in word decoding and passage comprehension, and vice versa (Kruk & Bergman, 2013), while children’s use of morphemes when reading at ages 8–9 was found to be an independent predictor of their concurrent reading comprehension and their word reading fluency at ages 12–13 (Nunes, Bryant, & Barros, 2012). Other additional components were investigated in a cross-sectional study by Kershaw and Schatschneider (2012), who found that passage fluency made a significant independent contribution to predicting reading comprehension in grades 3, 7, and 10, even after controlling for listening comprehension and decoding.
A study re-assessing the SVR by Tunmer and Chapman (2012) considered the specific role of vocabulary as part of listening comprehension, as making its own independent contribution to reading comprehension, and as supporting word recognition. They concluded that the basic two-factor model of reading comprehension still works, but that the assumption of the independence of the two components should be less strict. Mixed findings related to the SVR were found in a meta-analysis by García and Cain (2014), who found that the strength of the decoding-reading comprehension relation diminished non-linearly with age, with a break at about age 10, although it remained significant across all ages. The prediction based on the SVR that higher listening comprehension scores would be related to lower decoding-reading comprehension correlations was supported, while the prediction that the decoding-reading comprehension correlation would be higher for poor decoders was not. Overall, these findings reinforce the complex, dynamic, and interactive nature of relations among word reading, language ability, reading comprehension, and other knowledge-related and cognitive factors in reading development.

**Broadening the Reading Program in Harmony with Pupils’ Expanding Interests and Needs**

Gray (1951) also outlined developmental changes in students’ interests and in their purposes for reading as they mature, viewing these changes in interests and needs as occurring in tandem with changes in requisite aspects of reading competence. He recommended that reading materials and instruction be aligned with students’ interests and supportive of their purposes (see also Solomon & Anderman, this volume, on learning with motivation), with a central goal being the development of the habit of independent reading both for enjoyment and as an essential tool for adult life. Along with Gray’s emphasis on developmental changes in students’ reading interests and purposes, we see other associated topics of current relevance as including readers’ motivational responses to new forms of text, the role of out-of-school reading, and social interactions around text, including collaboration and discussion. Studies under this heading fell into two groups, one considering mechanisms related to the action or development of interest, and the other considering reading interest and behaviors in and out of school.

**Mechanisms of Interest**

Interest helps determine the course of an individual reading experience as well as shaping the choices and decisions associated with longer-term progress. Two recent studies addressed the role of interest when readers engage in reading challenging texts. An MDL-based study of knowledge, interest, and goal-directed strategic behavior for three gifted middle school readers reading challenging argumentative text found that the focus and strength of the students’ text- and domain-related interest was linked with their goal-directed behaviors during reading, and had both positive and negative influences on their engagement and development of understanding (Fox, Dinsmore, & Alexander, 2010). Compatible findings emerged in a larger-scale study, also with middle school students reading challenging texts, where higher relative topic interest appeared to support students in experiencing greater interest and enjoyment and lower difficulty during reading, while also encouraging their persistence in continuing to read the text past the optional stopping point (Fulmer & Fritjers, 2011).
The possible development of long-term intrinsic motivation for reading from accumulation of satisfying experiences with individual books was explored in a study looking at changes in reading motivation for third-grade students from September to December (Guthrie, Hoa, Wigfield, Tonks, & Perencevich, 2006). Changes in students’ situated motivation for individual books predicted changes in general intrinsic and extrinsic reading motivation over this period. A more stable source of intrinsic reading motivation was identified by Medford and McGeown (2012) in their study of 10–11 year olds, where the personality characteristics of openness to experience, agreeableness, and conscientiousness were independent predictors of intrinsic reading motivation, after controlling for reading skill and reading self-concept.

There were mixed findings about whether being a strong reader helps support increasing interest and motivation for reading. Guthrie and his colleagues found that initial level of reading comprehension did not predict growth in interest for fourth graders (Guthrie et al., 2007), while for seventh graders, achievement did predict change in level of motivation for reading (Klauda & Guthrie, 2015). There were also somewhat mixed findings about the influence of motivation on growth in achievement. Fourth graders’ reading motivation predicted comprehension growth from September to December (Guthrie et al., 2007), while for seventh graders, motivation for reading (including both extrinsic and intrinsic aspects) did not predict growth in achievement, although the relation between motivation and achievement was stronger for advanced readers than for struggling readers (Klauda & Guthrie, 2015). However, other studies of reading motivation as a predictor of reading achievement found strong predictive relations for grades 7 to 12 (Wolters, Denton, York, & Francis, 2014), ages 11–16 (McGeown, Duncan, Griffiths, & Stothard, 2015), and longitudinally from fifth to eighth grade (Croiland & Oros, 2014; Retelsdorf, Köller, & Möller, 2011). Key motivational predictors of reading achievement growth included perceived control (Wolters et al., 2014), intrinsic motivation and perceived competence (Croiland & Oros, 2014), and reading for interest (Retelsdorf et al., 2011).

Finally, comparisons of better and poorer readers found some interesting similarities and differences in their motivations related to reading, with similar levels of curiosity but differences for involvement and challenge seen by McGeown et al. (2012) when comparing very good and very poor readers. Similarly, Wolters et al. (2014) found that struggling and adequate readers were similar on levels of enjoyment, personal importance, and usefulness of reading, with differences evident for self-efficacy and perceived difficulty.

**Reading in and out of School**

Independent reading to pursue personally valued knowledge, one of Gray’s key goals in reading development, was explicitly mentioned in association with out of school reading by adolescent participants in a study by Hughes-Hassell and Rodge (2007). Such independent reading for pursuit of knowledge was evident in a study by Gabriel, Allington, and Billen (2012), in which middle school students were given the option of choosing two free magazine subscriptions to receive at home. Their selections tended to be aligned with areas in which they had personal experience, as well as by gender. They were eager to read the magazines, used metacognitive and informational-text related reading comprehension strategies for these non-academic texts, took advantage of text structure and features, and were not daunted by difficult vocabulary and technical jargon. The importance of autonomy in independent reading was also observed...
in a study of fifth grade students (De Naeghel, Van Keer, Vansteenkiste, & Rosseel, 2012), in which autonomous motivation for recreational reading was associated with higher frequency of leisure reading, higher reading engagement, and stronger reading academic performance; autonomous motivation for academic reading was similarly associated with higher frequency of leisure reading, but was not related to engagement or performance on a standardized reading test. It also seems to matter what students read outside of school; reading of books (Pfost, Dörfler, & Artelt, 2013) and of fiction in particular (McGeown et al., 2015) was found to be positively associated with reading achievement for adolescents, while reading online was negatively associated with reading achievement (Pfost et al., 2013).

**Guidance in Reading Essential in Each Curriculum Field**

In terms of instructional guidance for reading, Gray (1951) focused on the connection between reading purposes and appropriate reading behaviors. He considered that reading activities in the different content areas are associated with different purposes and therefore call for different attitudes and skills. According to Gray, the more differentiated and specialized the content areas become, the more critical it is that students understand clearly the purposes for which they are reading in each content area, understand which reading behaviors are called for, and can carry out those reading behaviors effectively. The linking of reading behaviors to reader purposes within the context of a given content area is equally fundamental to the understanding of reading development within the MDL. Along with the purpose-related and domain-specific reader attitudes and skills noted by Gray, we would include a strong role for knowledge both of reading and of the domain and its discourse practices. Studies in this section fell into two groups, one addressing what goes into successful reading of domain-related texts and the other considering issues arising in the context of content-area reading instruction.

**Reading of Domain-Specific Texts**

Gray’s suggestion that there are different reading requirements for different content areas has been taken up most recently by researchers interested in disciplinary literacy, who focus on what readers do in comprehending and applying meaning from texts within a given domain, often to accomplish tasks valued within a given disciplinary community (Shanahan, Shanahan, & Misischia, 2011). The expanding literature on domain-specific texts has reinforced certain insights from the existing literature, while highlighting other more novel factors, such as the influence of cultural backgrounds (Morra & Guðbjörnsdóttir, 2009) and readers’ willingness to personally engage with the ideas, characters, and issues that authors put forward (Schachter & Galili-Schachter, 2012).

For example, various forms of knowledge have long proven influential in the processing of and learning from domain-specific texts (Best, Floyd, & McNamara, 2008; De La Paz & Wissinger, 2015). Whether one is reading science, history, or mathematics texts, knowledge of the domain and knowledge of the rhetorical conventions common to disciplinary communities have consistently shown to contribute to deeper comprehension of secondary (e.g., textbooks) and primary documents (e.g., research articles or original historical documents; De La Paz & Wissinger, 2015; van Lacum, Ossevoort, Buikema, & Goedhart, 2012). Van Lacum et al. (2012), for instance, found that both
first-year life science students and experts in the field were able to read a research article and grasp its intended conclusion as well as identify certain grounds (evidence) pertinent to that conclusion. However, the non-expert readers were not as capable as the experts in identifying the important or more relevant grounds within the article. Others have also uncovered important processing differences for domain experts versus non-expert readers in those domains (e.g., Shanahan et al., 2011; Shepherd & van de Sande, 2014).

Abbott (2013) suggested in his longitudinal investigation of students of English literature that there are threshold concepts that are pivotal to dealing effectively with academic texts, which may prove advantageous to those with more domain or rhetorical knowledge. For English literature, the transformative concepts Abbott described were: (a) assuming a more active than passive orientation toward written utterances, (b) recognizing that authors and texts can be challenged, and (c) interrogating the relation between self as reader and the putative author.

Another consideration in learning to read domain-specific texts is the multiple forms of representation that are integral to these documents. Many texts read within academic domains include content such as pictures, graphs, diagrams, and formulas that must be integrated with written discourse if those texts are to be well understood (see also Mayer, this volume, on visualizations as part of instruction). However, comprehending these non-linguistic representations alone or in conjunction with the verbal content remains a challenging task, even for older and seemingly able readers (Shepherd & van de Sande, 2014). In their creative study of individuals with differing levels of expertise in mathematics, history, and chemistry, Shanahan et al. (2011) determined that those with greater expertise were more capable of integrating the linguistic and non-linguistic elements of text, while also identifying domain-related differences in how these experts viewed the non-linguistic content.

Issues in Content-Area Reading Instruction

Students learning in a particular academic domain (e.g., history or science) typically encounter informational texts, such as a textbook, that are intended to convey content considered relevant and important to that domain. These academic texts have particular characteristics that can challenge or complicate students’ ability to learn from them (Faggella-Luby, Ware, & Capozzoli, 2009). For one, these texts are generally laced with technical terminology or language removed from students’ everyday lives (Sørvik, Blikstad-Balas, & Ødegaard, 2015). For another, these texts often delve into topics that can be quite unfamiliar and sometimes uninteresting to readers (Ozuru, Dempsey, & McNamara, 2009). The texts encountered in academic domains are also often “hybrid” or mixed in nature, in that they mingle different narrative genres (e.g., personal diaries and stories) or incorporate various mediums (e.g., picture, graphics, and texts; Pappas, 2006; Sørvik et al., 2015). The quality of academic texts has often been found wanting—an issue that may prove especially challenging to less skilled or less knowledgeable readers (Ozuru et al., 2009). From an epistemic standpoint, academic texts have also been criticized for emphasizing more noncontroversial or “factual” content, rather than more controversial and debatable issues that are central to these domains (Wigent, 2013). Finally, there is also evidence that many students do not read the assigned materials as expected by their teachers, some students preferring to rely on more condensed sources of course content such as PowerPoints or class notes (Juban & Lopez, 2013).
Reflecting on this array of challenges, researchers have articulated certain responses and recommendations that have been shown to aid students in meeting the reading demands in content area classes (Holschuh, 2013). Those recommendations include activating students’ relevant background knowledge prior to text engagement, expressly teaching reading strategies, and explicating task demands and the expectations for text use in the completion of those tasks (Johnson & Zabrucky, 2011). There is also the call to expose children early to informational books and to the conventions of discourse in academic domains, such as science (Pappas, 2006).

**Adjusting Reading Programs to Unique Characteristics and Needs of Pupils**

Gray’s final principle (1951) concerns the acknowledgment and accommodation of learners’ individual differences in capabilities, interests, and needs, which he considered to be at the heart of any program for improving reading. For Gray, it was evident that learners differ widely and that support for learning to read requires recognition of the full range and implications of individual differences. He noted that “growth in reading is influenced by the total development of the child and by all the factors that promote it” (p. 434). In the MDL framework for reading development (Alexander, 2003, 2006), the course of development is also seen as complexly determined both by what learners bring with them and the dynamic interactions of their capabilities, interests, and goals with instruction, tasks, and other environmental influences impinging upon them, both in and out of school. Studies included here addressed factors related to individual differences in reading or learning to read, considered readers’ compensatory behaviors to overcome difficulties associated with such differences, and evaluated the long-term effects of early individual differences in success at learning to read.

**Factors Relating to Individual Differences**

Cognitive factors contributing to individual differences in reading capability or reading development have been the focus of a large body of studies over the past ten years. Among the aspects of reading capability considered, individual differences in reading comprehension, in particular, were found to be significantly related to: measures of intelligence, particularly non-verbal intelligence (Ferrer et al., 2007); simultaneous use by college students of phonological and semantic categories in a classification task (Cartwright, 2007); oral vocabulary (Ricketts, Nation, & Bishop, 2007); word-to-text integration processes (Perfetti, Yang, & Schmalhofer, 2008); the executive function of inhibition (Borella, Carretti, & Pelegrin, 2010; Van Dyke, Johns, & Kukona, 2014); and phrase-level prosody (Veenendaal, Groen, & Verhoeven, 2014).

The respective importance of genetic and environmental influences in the development of reading comprehension were addressed in a pair of twin studies (Christopher et al., 2013; Harlaar et al., 2010), and also in an overview of the research using twin studies (Olson, Keenan, Byrne, & Samuelsson, 2014). Overall, it appeared that individual differences in reading comprehension and other related reading abilities show strong genetic influence; growth rates also showed some genetic influence as well (Christopher et al., 2013). This set of findings suggests that the expectation that classroom instruction will make a strong contribution to changing a student’s status as a more or less proficient reader is not well grounded.
Compensation for Deficits

In seeking to understand what matters for becoming a successful reader, the degree to which it is possible for readers to work around or compensate for deficits in particular subskills is a matter of some interest. With regard to compensation for poor decoding ability, Walczyk and Griffith-Ross (2007) found that less fluent readers in the third, fifth, and seventh grades could compensate and arrive at the same level of comprehension as more fluent readers, particularly in less restrictive reading situations and when they were highly motivated. At the undergraduate level, resilient readers who had poor decoding ability but normal reading comprehension were found be highly efficient in compensating for their poor word recognition by using background knowledge and context to arrive at successful text comprehension (Welcome, Chiarello, Halderman, & Leonard, 2009). Undergraduate readers’ compensation for low memory span was investigated by Burton and Daneman (2007), who found that those of their low memory span participants who scored higher on a measure of epistemic sophistication were more likely to look back in the text at content that was unfamiliar or relevant to the task, and also recalled more of the targeted information.

Long-Term Effects of Early Individual Differences

The effect that early differences in reading skills and abilities have on subsequent reading performance has remained a significant but perplexing empirical question. Studies that weigh these long-term consequences of early individual differences often frame their research in terms of the “Matthew effect” (Stanovich, 1986), which theorizes that early differences between struggling and good readers will tend to grow over time. Researchers understand that age matters when it comes to reading development (Cunningham & Carroll, 2011), but the pattern of change over time remains unclear, especially for students who begin the developmental journey with certain skill deficiencies.

Recent investigations demonstrate that the developmental trajectories for good versus poor readers are far more complicated and difficult to interpret than the proverbial Matthew effect suggests. For example, there is some evidence in the literature that discrepancies between good and poor readers do expand when unconstrained skills, such as vocabulary or comprehension, are the focus (e.g., Kempe, Eriksson-Gustavsson, & Samuelsson, 2011; Luyten & ten Bruggencate, 2011; Tafa & Manolitis, 2012)—but not always (e.g., Cain & Oakhill, 2011; Protopapas, Sideridis, Mouzaki, & Simos, 2011). There is also evidence supporting the notion that for more constrained skills, such as decoding, young readers who start off more slowly can catch up (e.g., Ding, 2012), although children with poor word reading skills in kindergarten tend to continue to show slow or low growth in word reading and have lower reading comprehension and vocabulary in second grade (Ding, Richardson, & Schnell, 2013). Using meta-analytic techniques, Pfost, Hattie, Dörfler, and Artelt (2014) attempted to make sense of the seeming inconsistencies in studies of the Matthew effect; they also found that stable or widening developmental differences were more likely to be evident for unconstrained skills, and in studies where the measures used had adequate precision and variability (i.e., no floor or ceiling effects). Further, recent evidence from a longitudinal study of identical twins (Ritchie, Bates, & Plomin, 2015) suggests that those who have lower reading ability early on (as a consequence of environmental influences) tend to
perform less well on later measures of both verbal and non-verbal intelligence. Interestingly, amount of reading exposure did not emerge as a significant influence on later intelligence scores.

**FUTURE DIRECTIONS**

Our overview of the recent research on learning to read considered this research in light of Gray’s (1951) six foundational principles for improving reading and with reference to a lifespan developmental view on reading development structured around the MDL (Alexander, 2003, 2006). Reading the recent work on learning to read represented a challenging multiple texts reading task, but it was fascinating and encouraging to see the care and attention given to the multiple aspects of reading development addressed in this body of work. The increased attention to complex reading situations and higher-level reading outcomes, particularly in the work on multiple texts and evaluation, was welcome. However, understudied areas in reading development continue to include: the transition from high school to college and from college to adult roles and responsibilities; motivation in older readers; readers’ perspectives on what reading is and on their own goals in reading; the inherently social nature of all reading, particularly its aspect as communication with an author; and the intimate connection between the competencies and perspectives involved in reading and in writing (see also De La Paz & McCutchen, this volume, on learning to write). There is need for more extended longitudinal research that would allow the developmental dynamics of reading to be better understood; even the extensive research on early reading, much of it longitudinal, still falls short of giving a complete picture of how children move into and onward in reading. It was also somewhat surprising to see so little attention to knowledge related to reading. A more broadly framed consideration of what children are learning about reading as they learn to read might provide a clearer understanding of their progress through the developmental tasks encountered in elementary school and beyond. Our intricate stories about learning to read do not yet come together into a satisfying picture of what this looks like over the course of education, let alone beyond that; one possible step in this direction would be greater effort spent on conducting research syntheses in reviews and meta-analyses (Cain & Parrila, 2014).

A specific methodological issue that emerged in trying to get a coherent picture of what the recent research has to say about reading development and learning to read was the variety of conceptualizations and operationalizations of the various forms of reading capabilities and outcomes assessed. With regard to reading comprehension, the frequently observed use of some form of commercially produced standardized assessment was understandable, but made claims regarding growth in reading difficult to evaluate and limited in developmental scope. Aspects of reading performance beyond comprehension were rarely addressed, although the burgeoning literature on multiple text comprehension was an exception in this regard.

It is likely that future research will begin to address the challenge of implementing the CCSS, along with investigating their implicit assumptions about what an appropriate developmental trajectory in reading looks like, and how likely it is that most students will be able to move along that trajectory at the expected pace. The CCSS also introduce new expectations for readers, including the ability to recognize and evaluate an argument and to engage in extended close, independent reading of complex, challenging texts. These are excellent and admirable goals, but it remains to be seen
whether they are attainable and whether how they are positioned within in an overall understanding of reading development is justifiable.

The value of framing our understanding of learning to read within a lifespan developmental perspective is in this perspective’s insistence that it matters who the learners are; it matters what they choose to read and what we give them to read; it matters what they think reading is; it matters what they know about reading and about texts; it matters why they think they are reading; it matters what they are interested in, know about, and want to know about; and it matters how they make reading a part of their life. Although reading is a complex and fascinating psychological phenomenon in itself, in our psychologizing about reading and its myriad processes, we cannot lose sight of its tremendous potentiality and power as a behavior, and why, after all, we think learning to read is important.

REFERENCES


