

Special Education in Middle and High School

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Abstract This chapter includes three sections addressing historical, current, and emerging issues in teaching reading comprehension to students with disabilities. The first section reviews special education law, statistics, and practices as they relate to middle and school. The second section reviews the information presented in the content area chapters and discusses how the information presented works with students in special education but receiving the majority of their content instruction (80 % or more of the day) in general education settings. The final section presents an overview of effective instructional practices in light of new issues being raised with instructional fidelity and the need to have students more actively engaged in reading diverse texts, including those that are computer-based.

Keywords Reading disabilities • Special education policy • Instructional fidelity • Digital texts

Comprehending text in the content areas is a concern for most adolescents, but it can be particularly challenging for students in special education. Catts, Compton, Tomblin, and Bridges (2012) recently explored individual changes in students' reading ability over grades K-10 and found that the majority of poor readers persistently exhibited difficulty with reading comprehension alone (52 % of those with difficulty) or in combination with word identification (12 % of those with difficulty). Moreover, 42 % of the students in the study who exhibited poor reading skills were not identified as struggling until grade 4 or later. These findings suggest students do not outgrow their reading difficulties as they transition to more complex texts but, rather, students have an ongoing need for specialized instruction. Some

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K.L. Santi, D.K. Reed (eds.), *Improving Reading Comprehension of Middle and High School Students*, Literacy Studies 10, DOI 10.1007/978-3-319-14735-2_8

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students' difficulties are more likely to be identified as their school work becomes increasingly dependent upon reading and learning from texts of different genres.

To help provide a better context for the relationship between the aspects of reading comprehension discussed in this book and the needs of students with reading disabilities (RD), we first provide a brief review of the history of special education in policy and legislation. Then, we relate the education of students with RD to the information on reading comprehension presented in other chapters of this volume, particularly those focused on reading within the content areas (i.e., social studies in chapter “[Reading History: Moving from Memorizing Facts to Critical Thinking](#)”, mathematics in chapter “[Reading Mathematics: More than Words and Clauses; More than Numbers and Symbols on a Page](#)”, science in chapter “[Understanding Causality in Science Discourse for Middle and High School Students. Summary Task as a Strategy for Improving Comprehension](#)”, and English language arts in chapter “[Reading Comprehension Instruction for Middle and High School Students in English Language Arts: Research and Evidence-Based Practices](#)”). Finally, we turn to the emerging issues in teaching reading to students with learning disabilities (LD).

1 Reading Instruction for Students with Reading Disabilities: Historical Perspective

Currently, there are 55.5 million school-age children in the U.S. (U.S. Census Bureau, 2012), and approximately 6 million are identified for services under the Individuals with Disabilities Education Improvement Act (IDEA; U.S. Department of Education [DOE], 2008). The majority of the students identified for services spend approximately 80 % of the school day in the general education setting (U.S. DOE, 2008). This number does not include the student population served within the umbrella of IDEA, under Response to Intervention (RtI), which allows for up to 15 % of federal funding to be allocated for providing services to students considered at-risk for reading failure but who have not yet been referred to special education.

Initially, it was up to states or local districts to determine whether or not a student with a disability would be allowed to enroll in school. Parents advocated for ways to get their children in the educational system and were successful in securing small gains. For instance, in 1961 President Kennedy created the President's Panel on Mental Retardation¹ (see excerpt of the 1962 report in Appendix A). As a result of the panel's recommendations, legislation was passed in 1963 to provide funding for research and treatment centers focused on intellectual disabilities as well as training for teachers of students with intellectual disabilities. This momentum continued with President Johnson expanding access to public education for students with disabilities through the signing of the Elementary and Secondary Education Act of 1965.

¹Mental retardation is now referred to as *intellectual disability*.

In the early 1970s, policymakers continued raising awareness of the need to provide students with disabilities *access* to a free appropriate public education (FAPE) in a least restrictive environment (LRE). With the passage of the Education for All Handicapped Children Act of 1975, commonly referred to as Public Law (PL) 94-142, special education became a federally mandated structure for states to follow. For example, the LRE is a provision designed to assure students will be educated, to the maximum extent appropriate, in regular classes (DOE: 20 U. S. C. §1412 (5) (B)). The ability of the students to move through the education system with checks in place to ensure FAPE meant that clear and consistent procedures were instituted across all U.S. public schools and that students and parents were afforded basic protection of their rights through due process.

PL 94-142 outlined the basic framework for identifying and serving students with disabilities. This consisted broadly of three steps schools had to follow: first, identify and document a need for evaluation of the student based on classroom performance (also referred to as the Child Find mandate); second, communicate with the parents about the process and obtain their consent to test the child; and finally, convene a team that included the parents to design an Individualized Education Program (IEP) for the student. In addition, the federal government established guidance for states and local education agencies to assess the efficacy of the efforts to educate students with disabilities and ensure the protections of the law were provided to all students with disabilities. It is important to remember the original focus was to ensure adherence to procedures for identifying students and safeguards for delivering education in a general classroom setting to the extent possible. The law did not specify the appropriate interventions, modifications, or accommodations to be delivered to all students who qualified for services.

Although the basic premise of the original legislation has not changed, subsequent reauthorizations of the law have attempted to incorporate the growing research base on how to best educate students with disabilities in the general education setting. This has shifted the focus from access (i.e., FAPE) to the evidence based practices that constitute a quality education for all students. The first such movement in this direction occurred with the 1990 reauthorization of the law under PL 101-476, which included a change in the name to Individuals with Disabilities Education Act. More substantive changes included the expansion of services (e.g., more types of disabilities were covered), sanctioning of person-first language (e.g., *student with a disability* instead of *disabled student*), and provisions to hold states accountable for providing the necessary services (e.g., more emphasis was placed on educating students in the same class with their peers who did not have a disability). Additional amendments to the law, such as those passed in 1997, changed various aspects, including further expanding the disability categories and related services, changing IEP guidelines (e.g., requiring the inclusion of a general education teacher on the team), requiring annual evaluation and reevaluation of students, and increasing the emphasis on performance goals and accountability.

Although the improvements made over the nearly 30 years of federal involvement in the education of students with disabilities were by no means trivial, the reauthorization of IDEA in 2004 is the focus of the remaining special education

overview due to the nature of the changes entered into the law. For example, the current law, PL 108-446, no longer requires that a student be administered an IQ test for placement. The use of an RtI framework allows schools to serve more students who are truly in need of additional interventions in a more timely manner. This includes authorizing the use of some federal funds (up to 15 %) to provide preventative instruction to students who are exhibiting risk of educational difficulties but who are not yet identified for special education.

Text Box 1

A Guide to the Individualized Education Program:

The Regular Education Teacher as Part of the IEP Team (p. 8)

Appendix A of the federal regulations for Part B of IDEA answers many questions about the IEP. Question 24 addresses the role of the regular education teacher on the IEP team. Here's an excerpt from the answer:

“... while a regular education teacher must be a member of the IEP team if the child is, or may be, participating in the regular education environment, the teacher need not (depending upon the child's needs and the purpose of the specific IEP team meeting) be required to participate in all decisions made as part of the meeting or to be present throughout the entire meeting or attend every meeting. For example, the regular education teacher who is a member of the IEP team must participate in discussions and decisions about how to modify the general curriculum in the regular classroom to ensure the child's involvement and progress in the general curriculum and participation in the regular education environment.

Depending upon the specific circumstances, however, it may not be necessary for the regular education teacher to participate in discussions and decisions regarding, for example, the physical therapy needs of the child, if the teacher is not responsible for implementing that portion of the child's IEP.

In determining the extent of the regular education teacher's participation at IEP meetings, public agencies and parents should discuss and try to reach agreement on whether the child's regular education teacher that is a member of the IEP team should be present at a particular IEP meeting and, if so, for what period of time. The extent to which it would be appropriate for the regular education teacher member of the IEP team to participate in IEP meetings must be decided on a case-by-case basis.”

Source:

Office of Special Education and Rehabilitative Services. (2000). *A guide to the individualized education program*. Washington, DC: U.S. Department of Education. Retrieved from: <http://www2.ed.gov/parents/needs/speced/iepguide/index.html?exp=3>

There were two distinct educational events that occurred between the time of the 1990 reauthorization and the 2004 reauthorization that impacted the way in which the 2004 legislation was written. The first was the No Child Left Behind (NCLB) Act of 2001 (PL 107-110), designed to build on the existing framework of the Elementary and Secondary Education Act. The guiding principles of the legislation included a stronger accountability system, greater flexibility for states and school districts in the use of federal funds, standards for highly qualified teachers, more school options for families with disadvantaged backgrounds, and a greater emphasis on using instructional strategies that had proven efficacy. Although not specifically targeting special education, there were links between the content of that legislation and the reauthorization of IDEA. In particular, the two acts included requirements for placing teachers with the proper training and certificates in classrooms serving students with disabilities and for implementing evidence based instructional strategies to teach students experiencing difficulties.

In 2002, the President's Commission on Excellence in Special Education (U.S. DOE, 2002) released a report of the specific concerns and comments elicited in public meetings with all parties involved in the education of students with disabilities. The commission made three major recommendations in this report that have a direct link to some of the changes eventually included in the 2004 reauthorization of IDEA. The first recommendation was to change the focus of special education policy from the process of identification and placement to the results of the educational services delivered. The second recommendation was to restructure service delivery models to allow for preventative instruction rather than waiting for the student to fail and, thus, demonstrate a discrepancy between his or her ability and level of achievement before offering supplemental support. The commission's final recommendation was to adopt the perspective that all students belonged to general education first, so all educators shared in the responsibility of the overall quality of education provided. These three recommendations collectively encourage improving education for students regardless of special education designation—or lack thereof.

NCLB, the Report of the President's Commission on Excellence in Special Education, and other supporting data about the gap in educational outcomes between students who were and were not identified with a disability were taken into account when crafting the Individuals with Disabilities Education Improvement Act of 2004 (P.L. 108-446). Despite the slight name change, the law is still commonly referred to as IDEA. The most substantive changes introduced by the reauthorized IDEA concerned the identification process and the provision of preventative services for children not yet identified with a disability. Up to this point, a discrepancy model was used to determine whether students qualified for special education. Typically, students in grade three who were behind in academic performance relative to perceived ability were referred for IQ and achievement testing. Only those students who met a threshold score on an IQ test and demonstrated about a 30-point (or a two standard deviation) difference between IQ and academic achievement test scores were considered to have LD.

This was problematic for several reasons. Several students experienced failure starting in kindergarten, yet were not identified for services until grade three. The delay in identification was mainly provided to allow students time to develop the skills, but also due to the difficulty in measuring very young students' academic skills. We have considerable research demonstrating that early intervention is better. Students who are poor readers at the end of first grade almost never reach an average reading level by the end of elementary (Francis, Shaywitz, Stuebing, Shaywitz, & Fletcher, 1996; Juel, 1988; Torgesen & Burgess, 1998). Because reading ability is the basis for all later academic skills, waiting to intervene has serious consequences for students' school success and educational attainment. We also know that, aside from the artificial IQ and achievement cutoff scores, researchers could not find significant differences in students identified with an LD versus those students identified as at-risk or just low achieving (Francis et al., 1996). Therefore, what became known as the *wait-to-fail model* (Fletcher & Vaughn, 2009) hindered the ability of students to catch up to their peers academically.

Text Box 2

Definitions of Specific Learning Disability

While Specific Learning Disability (SLD) is the official name found in the IDEA (U.S. DOE, 2008) legislation and in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5: American Psychiatric Publishing, 2013), the more common reference is simply Learning Disability (LD). The definitions used in federal legislation and in DSM-5 are relatively similar in that SLD is the identification of a persistent impairment in the processing of language (which includes reading, writing, spelling, and math) that are not accounted for due to other conditions.

Nuances:

- Dyslexia is accounted for under the SLD classification in both definitions although a few states have made a decision to make dyslexia a separate category for identification, service, and funding purposes.
- Exclusions are similar with two notable differences.
 - The DSM-5 excludes academic instructional inadequacies.
 - IDEA excludes disadvantages related to environmental, cultural, and economic status.

To offer an alternative to the discrepancy model, the 2004 reauthorization of IDEA also addressed instruction that could be provided to students experiencing reading or other academic difficulties. Hence, the legislation sanctioned RtI as a comprehensive system for delivering a quality education to all students within the general education framework. RtI is not a curriculum or a legal requirement,

but it does provide a clear path for teachers working with students to close the learning gap. There are four distinguishing characteristics of the RtI framework: (a) high quality research based instruction delivered in the general education framework, (b) continuous monitoring of student progress, (c) the use of a screener to identify students potentially at risk for academic or behavioral difficulties, and (d) multiple tiers of progressively more intensive instruction (Memorandum, 2010). Federal legislation does not prescribe any one way to implement RtI; however, the description is of a multi-level instructional framework that is implemented school-wide to address the learning and behavioral needs of all students.

We present the legislation and its component provisions with the intent of helping those in both general education and special education move from considering their systems as separate to a blended approach for working with all students. It is in this vein that we think readers from the two disciplines should consider the chapters presented in this book. The use of an RtI framework and school-wide implementation of evidence based instructional strategies at multiple tiers of intensity are still in the process of being fully implemented in school systems as well as fully included in university teacher training programs. For example, general education teachers responding to a survey on the RtI model tended to self-report their lowest level of knowledge as related to utilizing assessment data and providing services for the differentiated instruction of students in special education (Spear-Swerling & Cheesman, 2012). Notably, less than one-third of the 142 respondents in the study had experience working within an RtI framework. Other survey results suggest that select individuals (e.g., administrators, reading specialists, and RtI coordinators) in the lower elementary grades had higher levels of knowledge about RtI, but the details of how schools were implementing the model varied widely across sites (Jenkins, Schiller, Blackorby, Thayer, & Tilly, 2013).

Ongoing research may help to inform the next reauthorization of IDEA as well as the state and local policies aimed at integrating general and special education. These fields of inquiry encompass not only the particular areas of difficulty experienced by and the effective practices designed for students with RD, but increasingly the research on the nature of reading comprehension also is concerned with what facilitates or hinders content learning among all adolescents in general education classes—regardless of disability status. In the next section, we highlight those issues as raised in the other chapters of this book.

2 Reading Instruction for Students with Reading Disabilities: Current Issues

More rigorous standards for students' college and career readiness (e.g., National Governor's Association Center for Best Practices [NGA], Council of Chief State School Officers [CSSO], 2010) are intended to be aligned to state and national accountability assessments, including measures designed to assess students' reading

comprehension performance (see chapter “[Improving Comprehension Assessment for Middle and High School Students: Challenges and Opportunities](#)” for a thorough discussion of next generation reading comprehension assessments). The standards elevate the need to consider the literacy demands of the content areas and the educational practices that can be implemented to support the academic success of students with LD or, more specifically, RD. In chapter “[Reading History: Moving from Memorizing Facts to Critical Thinking](#)”, Massey provides an overview of literacy instruction designed to support reading in the content areas as it has evolved from a basis in ubiquitous, general learning strategies to a closer examination of what it means (and takes) to be a competent reader and user of discipline-specific texts. This is an important context for approaching the content-focused chapters “([Reading History: Moving from Memorizing Facts to Critical Thinking](#), [Reading Mathematics: More than Words and Clauses; More than Numbers and Symbols on a Page](#), [Understanding Causality in Science Discourse for Middle and High School Students](#). [Summary Task as a Strategy for Improving Comprehension and Reading Comprehension Instruction for Middle and High School Students in English Language Arts: Research and Evidence-Based Practices](#))” and understanding the challenges associated with teaching students who may have significant deficits in foundational reading skills (i.e., those with RD) in addition to a novice understanding of the content about which they are reading.

For example, older students who struggle with reading may have a difficult time achieving even a literal understanding of informational texts (Conlon & Sanders, 2011), but Brasseur-Hock, Deshler, & Hock explain in chapter “[Reading Comprehension Instruction for Middle and High School Students in English Language Arts: Research and Evidence-Based Practices](#)” that this level of skill is only a precursor or first step to accomplishing *close reading*—defined as deriving meaning through recursive interactions with the text and an integration of new and prior knowledge. Because close reading is integral to college and career readiness standards (NGA & CSSO, 2010), Brasseur-Hock and colleagues offer effective practices for fostering this more advanced literacy skill in English language arts (ELA) classes. The authors also note that such instruction in the general education ELA classroom will be insufficient for ensuring successful outcomes for students who have significant reading difficulties, so they also review supplemental and school-wide programs designed to provide multiple tiers of instructional support as in an RtI framework.

In chapter “[Reading History: Moving from Memorizing Facts to Critical Thinking](#)”, Massey also suggests a form of close reading that involves multi-phasic or recursive processes of understanding and integrating historical texts. In the history discipline, Massey explains the concern is with teaching students to compare information across sources and contexts. This has proven to be a difficult skill for students and one that influences their comprehension (Kim & Millis, 2006). Given that Massey’s review of the extant literature indicates historical reading and inquiry skills take time and specialized instruction for adolescents to develop, we might expect students with RD to experience even greater difficulty achieving proficiency in this type of literacy than their peers without disabilities.

The chapters on reading in ELA and in history both recommend having students summarize segments of text as one facet of scaffolding the close reading of discipline-specific texts. However, León and Escudero discuss in chapter “[Understanding Causality in Science Discourse for Middle and High School Students. Summary Task as a Strategy for Improving Comprehension](#)” how summaries are not all equivalent. Rather, they have different structures that reflect different levels of understanding and require different strategies to construct. Findings from a meta-analysis of research conducted with adolescents who have RD indicated that teaching students to summarize text had strong effects on students’ reading comprehension (Kim, Linan-Thompson, & Misquitta, 2012). Given the greater complexity of science texts as compared to narratives, León and Escudero suggest student-generated summaries may be particularly relevant to meaningful learning in science.

Moving beyond a narrow use of text for passively obtaining information to more actively building conceptual knowledge is also advocated by Avalos, Bengochea, and Secada in chapter “[Reading Mathematics: More than Words and Clauses; More than Numbers and Symbols on a Page](#)”. These authors argue that the typical emphasis of teaching with math textbooks is to find answers or solve problems, but to help students develop mathematical reasoning, teachers should focus more attention on how to understand mathematical language structures and how to use embedded examples for improving problem solving processes. Students with LD have demonstrated difficulties with mathematical problem solving, and those with both a math and a reading disability have the lowest responsiveness to problem solving interventions (Fuchs, Fuchs, & Prentice, 2004). Therefore, the instructional implications of Avalos and colleagues’ findings have relevancy to the approaches general education and intervention math teachers implement.

In fact, what is common across the four chapters on reading comprehension in the core content areas is the critical role middle and high school teachers play in the successful implementation of literacy strategies for deeply processing discipline-specific texts and building conceptual knowledge. We echo this theme throughout the next section in which we consider other emerging areas of research and practice related to the reading comprehension of students with RD.

3 Reading Instruction for Students with Reading Disabilities: Future Directions

There is a consensus that the reading abilities of middle and high school students, in general, have been insufficient to support learning from complex texts (ACT, 2006) and have remained relatively unchanged over time (National Center for Education Statistics, 2013) while the level of rigor in reading material to which adolescents are exposed in their K-12 education has steadily declined over the years (Adams, 2009; Williamson, 2008). Students with RD demonstrate particularly weak

performance that is increasingly disparate from the reading achievement of their typically developing peers (Vaughn et al., 2012). Compounding the challenges this presents classroom teachers are findings that adolescents with RD demonstrate great heterogeneity in their strengths and weaknesses in component reading skills such as word identification, fluency, vocabulary, and comprehension (Brasseur-Hock, Hock, Kieffer, Biancarosa, & Deshler, 2011; Cirino et al., 2013). Furthermore, some students who struggle with reading are twice exceptional, or gifted and talented but possessing a learning disability. These students may have unique needs for goal setting and motivation (McCoach & Siegle, 2003) or impulsivity control (Gunter & Kenny, 2012).

What can general education teachers in middle and high schools do to support such a diverse group of students in reading and learning from content area texts? Although the overall depth and breadth of research on reading instruction and intervention conducted with adolescents is far less than that with elementary students, the knowledge base has been growing in recent years and now supports syntheses of the literature capable of indicating effective and promising practices for students who struggle with reading, including those with RD (e.g., Flynn, Zheng, & Lee, 2012; Solis et al., 2012). Common recommendations are to:

- Explicitly teach key vocabulary utilized in content area texts (Fang, 2006),
- Supplement students' background knowledge about relevant concepts upon which the new readings are intended to build (Vaughn et al., 2009),
- Provide instruction in making inferences about the relationship among ideas in the text (Englert et al., 2009; Meyer et al., 2010), and
- Improve students' metacognitive strategies by having them generate or answer questions while reading as well as monitor their comprehension by paraphrasing or summarizing (Berkeley, Mastropieri, & Scruggs, 2011; Thiede, Anderson, & Theriault, 2003).

Available literature outlines the effective approaches to teaching literacy to adolescents with RD (e.g., Flynn et al., 2012; Kamil et al., 2008; Wanzek et al., 2013), but less has been compiled about more nuanced or novel features of the instructional design that may contribute to students' comprehension of content area texts. In the sections that follow, we highlight emerging areas of research with the potential for improving outcomes in the future.

3.1 Elements of Effective Instructional Delivery

Reading comprehension instruction for middle and high school students can occur in two different settings: (a) general education content area classes such as English language arts, math, science, social studies and (b) supplemental reading intervention classes delivered as an elective for any student experiencing difficulties or as a self-contained course only for students in special education. With respect to the supplemental class setting, it is less likely that high school teachers will have

specialized preparation in delivering intensive reading intervention as compared to middle school teachers (Cantrell, Almasi, Carter, & Rintamaa, 2013). A lack of thorough preparation and ongoing support can lead secondary teachers to have less confidence in their abilities to address students' needs (Reed, 2009). When occurring without strong fidelity of implementing intervention program components, teachers' low self-efficacy has been associated with lower student outcomes in reading comprehension (Cantrell et al., 2013). Interestingly, Cantrell and colleagues (2013) found improved student outcomes were associated with teachers who had high self-efficacy but low treatment integrity, meaning they implemented the intervention program for only 53 % of the instructional time on average.

It has often been reported that adolescents who experience literacy instruction with higher fidelity to the intended program demonstrate greater reading growth than those who experience instruction of lower fidelity (e.g., Benner, Nelson, Stage, & Ralston, 2011; Levin, Catlin, & Elson, 2010). Therefore, it is worth considering what degree of improvisation might be allowable when reading comprehension interventions are being implemented by teachers receiving high quality professional development. To adapt instruction based on continuously gathered student data (as recommended in RtI or multi-tiered models) may require less rigid adherence to programmatic features. Nevertheless, there likely are limits to the nature of the adaptations that can be made. Omitting particular features of literacy instruction (Cuevas, Russell, & Irving, 2012) or reorganizing the delivery of lesson content (Calhoun & Petscher, 2013) have been linked to differences in student outcomes.

A similar balance between adherence and improvisation might need to be struck for literacy instruction occurring in general education, content area classrooms. For example, integrating vocabulary and comprehension strategies with peer collaboration and discussion activities has led to improved student outcomes in reading as well as content learning (McCallum et al., 2011; Morocco, Hindin, Mata-Aguilar, & Clark-Chiarelli, 2001; Wexler, Reed, Pyle, Mitchell, & Barton, 2013). However, using peer-mediated activities as a replacement for having students actively read text for themselves has not proven effective (Cuevas et al., 2012). Even when paired with effective vocabulary and comprehension practices, teacher read-alouds of text do not result in improvements over having students independently read informational text (Reed, Swanson, Petscher, & Vaughn, 2013). There seems to be little substitute for the very powerful act of actively reading high quality texts (Lawrence, 2009).

3.2 Computer-Based Texts

The vast majority of studies conducted with middle and high school students have examined reading of printed text in a linear fashion—that is, reading the text from start to finish and following the order in which the information is presented from sentence to sentence and page to page. However, adolescents today are far more likely to engage in reading Online than in traditional print (Lawrence, 2009;

Nippold, Duthie, & Larsen, 2005). Reading Online is often nonlinear in that students can link to related content and determine in what sequence they access information (Pazzaglia, Toso, & Cacciamani, 2008). Some believe this places an added cognitive load on the reader (DeStafano & LeFevre, 2007) or requires new kinds of skills for reasoning and self-regulating as hypertext information is processed and the navigational path tracked (Calisir, Eryazici, & Lehto, 2008; Coiro & Dobler, 2007). Although more pressure might be placed on the reader's prior knowledge of Internet searching and electronic sources of information (Zhang & Duke, 2008), the nature of hyperlinked text also may have the benefit of offsetting any deficiencies in prior knowledge about the topic or content being read Online (Calisir & Gurel, 2003). Studies of undergraduates (Willoughby, Anderson, Wood, Mueller, & Ross, 2009) and middle school students (Coiro, 2011) revealed that ability to conduct electronic searches and navigate websites was associated with successful information retrieval and reading comprehension, despite having lower levels of prior content knowledge.

Srivastava and Gray (2012) speculated these types of Internet skills might alleviate the cognitive load of Online reading among middle school students as compared to linear paper-based reading, thus allowing more of their cognitive resources to be devoted to comprehending the material. Instead of relying on teachers to supplement their prior knowledge, students might be able to build the requisite foundational knowledge for themselves in nonlinear reading. This presents a new challenge to research on reading comprehension for students with RD because the typical avenues of support investigated, such as pre-teaching background knowledge of the topic or content and sequentially processing information, might not be the kinds of skills needed to successfully understand when reading hyperlinked text (Leu et al., 2007). This could impact what it means to be a successful reader and in what areas we attempt to intervene as textbooks are moved into electronic, hyperlinked delivery systems.

Very little research has been done to determine the impact of these changes in text format on the performance of students with RD. In neither linear nor nonlinear text did eighth graders with language and learning disabilities in the Srivastava and Gray (2012) study demonstrate comparable comprehension to the students without disabilities. This might have been related to the students with disabilities choosing not to access all the hyperlinked webpages and not devoting additional time to answering the questions. In other words, the study participants displayed very common characteristics of students with RD who do not monitor their comprehension or use available resources to fix-up any breakdowns in understanding (Short, Schatschneider, & Friebert, 1992). Having the resources available Online did not guarantee students would bring them to bear on the academic task. Rather, the students with disabilities still were not strategic readers. Moreover, simply using the Internet for independent reading activities, such as emailing and web surfing, has not been shown to improve students' vocabulary knowledge in the same ways that reading traditional narrative and expository texts have (Lawrence, 2009). It should be noted that for students in the Lawrence (2009) study with less well developed vocabularies,

independent reading of traditional texts also was not profitable because the students lacked the requisite knowledge to learn new, unfamiliar words in the linear context.

Hence, there remains a need for a skilled teacher who can appropriately structure learning activities both off- and On-line in linear and nonlinear texts. Electronic media need not be hyperlinked in order to be supportive. Locally created and relatively simple electronic slideshows can be used to embed recommended literacy supports within sequentially presented text. The computer then fulfills the role of the teacher by presenting advanced organizers before reading, prompting students to stop and paraphrase information in writing while reading, providing the meanings of new words in the text, and posing comprehension questions after reading. More sophisticated designs also might incorporate comprehension questions with a structure that parallels those included on electronic reading comprehension measures developed to align with college and career readiness standards (see chapter “[Improving Comprehension Assessment for Middle and High School Students: Challenges and Opportunities](#)” of this book). High school students who read computer-delivered text with the types of electronic literacy enhancements described above demonstrated statistically significantly better comprehension on a standardized measure, as well as better outcomes on text-specific assignments, than students who were taught the content in a traditional format (Cuevas et al., 2012).

The computer delivery method might have an advantage over traditional teacher delivery of embedded literacy instruction in that it can be self-paced, but this has not yet been empirically tested as an accommodation within general education for students with RD. Available research indicates that nonlinear or interactive Online reading can engender interest and improve comprehension among students with a threshold level of Internet and conceptual knowledge (Scheiter & Gerjets, 2007), but whether this would apply to linear electronic texts and the comprehension of students with RD requires additional research. In addition, it is not known whether classroom teachers will perceive the electronic slideshows as a feasible means of differentiating instruction in content area courses. Previous studies have found teachers are more likely to implement accommodations in general education classes if those instructional adaptations do not require much extra time, preparation, assistance, or changes to the teachers’ typical practices (Mastropieri & Scruggs, 2001; Scott, Vitale, & Masten, 1998). Arguably, well-constructed electronic delivery formats will require an investment of human and capital resources in the initial stages and for ongoing updates or refinements.

4 Conclusion

Reviewing the history of educational policy for individuals with disabilities provides a context for understanding how general education teachers have gradually taken more responsibility for providing instruction to students with LD/RD. That is, special education has evolved from a separate or exclusionary model to one that

is now fully integrated with the general education setting. The push to educate all students—regardless of official labels—has granted general education teachers more access to multiple resources for delivering appropriate instruction to both prevent and remediate students' difficulties. However, this has also placed more responsibility on middle and high educators who likely have more training in teaching a particular content area than in providing reading instruction to heterogeneous groups.

Students with RD often have difficulty understanding simple texts or comprehending at more than a surface level. Yet, their success in secondary schools and beyond rests in meeting renewed expectations for reading and utilizing complex texts in their classes. This requires flexibly adapting to the unique reading demands of different disciplines (see chapters "[Reading History: Moving from Memorizing Facts to Critical Thinking](#), [Reading Mathematics: More than Words and Clauses; More than Numbers and Symbols on a Page](#), [Understanding Causality in Science Discourse for Middle and High School Students](#). [Summary Task as a Strategy for Improving Comprehension](#) and [Reading Comprehension Instruction for Middle and High School Students in English Language Arts: Research and Evidence-Based Practices](#)") and text forms, including those incorporating technology (i.e., electronic texts with active links to vocabulary and other related content). Teachers need to take all these factors into consideration when planning instruction for adolescents with RD as these students often need more explicit strategy instruction, extra time to process the information, and alternative ways to demonstrate their learning.

These are pedagogical skills that take time and high quality professional development to acquire (Kosanovich, Reed, & Miller, 2010). As an initial step, middle and high school teachers accustomed to a traditional lecture style need to start more actively involving students in their learning. This will help break the habits of passivity that often characterize students with LD (Newman, 2006). The more facile teachers become at incorporating a variety of instructional strategies, the more likely they will be successful in assisting students with disabilities at making appropriate academic gains throughout the school year.

Appendix A

Excerpt from the transcript of the President's Panel on Mental Retardation (pp. 1–3)

Introduction

The mentally retarded are children and adults who, as a result of inadequately developed intelligence, are significantly impaired in their ability to learn and to adapt to the demands of society. An estimated 3 % of the population, or 5.4 million

children and adults in the United States are afflicted, some severely, most only mildly. Assuming this rate of prevalence, an estimated 126,000 babies born each year will be regarded as mentally retarded at some time in their lives.

Significance of the Problem

Mental retardation ranks as a major national health, social, and economic problem:

- It afflicts twice as many individuals as blindness, polio, cerebral palsy, and rheumatic heart disease, combined; only 4 significant disabling conditions—mental illness, cardiac disease, arthritis, and cancer—have a higher prevalence, but they tend to come late in life while mental retardation comes early.
- About 400,000 of the persons affected are so retarded that they require constant care or supervision, or are severely limited in their ability to care for themselves and to engage in productive work; the remaining 5 million are individuals with mild disabilities.
- Over 200,000 adults and children, largely from the severely and profound mental retarded groups, are cared for in residential institutions, mostly at public expense. States and localities spend \$300 million a year in capital and operating expenses for their care. In addition they spend perhaps \$250 million for special education, welfare, rehabilitation, and other benefits and services for retarded individuals outside of public institutions. In the current fiscal year, the Federal Government will obligate an estimated \$178 million for the mentally retarded, about four-fifths for income maintenance payments and the rest for research, training and for special services. Federal funds for this group have increased by about 75 % in 5 years.
- The Nation is denied several billion dollars of economic output because of the under-achievement, under-production and/or the complete incapability of the mentally retarded.
- The untold human anguish and loss of happiness and well being which results from mental retardation blights the families in the United States. An estimated 15–20 million people live in families in which there is a mentally retarded individual. Economic costs cannot compare with the misery and frustration and realization that one's child will be incapable of living a normal life or fully contributing to the well being of himself and to society in later life.

Source:

President's Panel on Mental Retardation. (1962). *A proposed program for national action to combat mental retardation*. Washington, DC: U.S. Government Printing Office. Retrieved from: <http://www.archives.gov/research/americans-with-disabilities/transcriptions/naid-6050329-report-to-the-president-a-proposed-program-for-national-action-to-combat-mental-retardation.html>

References

- ACT. (2006). *Reading between the lines: What the ACT reveals about college readiness in reading*. Iowa City, IA: Author.
- Adams, M. (2009). The challenge of advanced texts: The interdependence of reading and learning. In E. H. Hiebert (Ed.), *Reading more, reading better: Are American students reading enough of the right stuff?* (pp. 163–189). New York, NY: Guilford.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Benner, G. J., Nelson, J. R., Stage, S. A., & Ralston, N. C. (2011). The influence of fidelity of implementation on the reading outcomes of middle school students experiencing reading difficulties. *Remedial and Special Education, 32*, 79–88. doi:10.1177/0741932510361265.
- Berkeley, S., Mastropieri, M. A., & Scruggs, T. E. (2011). Reading comprehension strategy instruction and attribution retraining for secondary students with learning and other mild disabilities. *Journal of Learning Disabilities, 44*, 18–32. doi:10.1177/0022219410371677.
- Brasseur-Hock, I. F., Hock, M. F., Kieffer, M. J., Biancarosa, G., & Deshler, D. D. (2011). Adolescent struggling readers in urban schools: Results of a latent class analysis. *Learning and Individual Differences, 21*, 438–452. doi:10.1016/j.lindif.2011.01.008.
- Calhoun, M. B., & Petscher, Y. (2013). Individual and group sensitivity to remedial reading program design: Examining reading gains across three middle school reading projects. *Reading and Writing: An Interdisciplinary Journal, 26*, 565–592. doi:10.1007/s11145-013-9426-7.
- Calisir, F., & Gurel, Z. (2003). Influence of text structure and prior knowledge of the learner on reading comprehension, browsing, and perceived control. *Computers in Human Behavior, 19*, 135–145. doi:10.1016/S0747-5632(02)00058-4.
- Calisir, F., Eryazici, M., & Lehto, M. R. (2008). The effects of text structure and prior knowledge of the learner on computer-based learning. *Computers in Human Behavior, 24*, 439–450. doi:10.1016/j.chb.2007.01.032.
- Cantrell, S. C., Almasi, J. F., Carter, J. C., & Rintamaa, M. (2013). Reading intervention in middle and high schools: Implementation fidelity, teacher efficacy, and student achievement. *Reading Psychology, 34*, 26–58. doi:10.1080/02702711.2011.577695.
- Catts, H., Tomblin, J., Compton, D., & Bridges, M. (2012). Prevalence and nature of late-emerging poor readers. *Journal of Educational Psychology, 104*, 166–181. doi:10.1037/a0025323.
- Cirino, P. T., Romain, M. A., Barth, A. E., Tolar, T. D., Fletcher, J. M., & Vaughn, S. (2013). Reading skill components and impairments in middle school struggling readers. *Reading and Writing: An Interdisciplinary Journal, 26*, 1059–1086. doi:10.1007/s11145-012-9406-3.
- Coiro, J. (2011). Predicting reading comprehension on the Internet: Contributions of offline reading skills, online reading skills, and prior knowledge. *Journal of Literacy Research, 43*, 352–392. doi:10.1177/1086296X11421979.
- Coiro, J., & Dobler, E. (2007). Exploring the comprehension strategies used by sixth-grade skilled readers as they search for and locate information on the Internet. *Reading Research Quarterly, 42*, 214–257.
- Conlon, E., & Sanders, M. (2011). The reading rate and comprehension of adults with impaired reading skills or visual discomfort. *Journal of Research in Reading, 34*, 193–214. doi:10.1111/j.1467-9817.2009.01421.x.
- Cuevas, J. A., Russell, R. L., & Irving, M. A. (2012). An examination of the effect of customized reading modules on diverse secondary students' reading comprehension and motivation. *Educational Technology Research and Development, 60*, 445–467. doi:10.1007/s11423-012-9244-7.
- DeStafano, D., & LeFevre, J.-A. (2007). Cognitive load in hypertext reading: A review. *Computers in Human Behavior, 23*, 1616–1641. doi:10.1016/j.chb.2005.08.012.
- Education for All Handicapped Children Act of 1975, Pub. L. No. 94-142, § 20 USC 1401 et seq.
- Englert, C. S., Mariage, T. V., Okolo, C. M., Shankland, R. K., Moxley, K. D., Courtad, C. A., . . . & Chen, H. Y. (2009). The learning-to-learn strategies of adolescent students with

- disabilities: Highlighting, notetaking, planning, and writing expository texts. *Assessment for Effective Intervention*, 34, 147–161. doi:[10.1177/1534508408318804](https://doi.org/10.1177/1534508408318804).
- Fang, Z. (2006). The language demands of science reading in middle school. *International Journal of Science Education*, 28, 491–520. doi:[10.1080/09500690500339092](https://doi.org/10.1080/09500690500339092).
- Fletcher, J. M., & Vaughn, S. (2009). Response to Intervention: Preventing and remediating academic difficulties. *Child Development Perspective*, 3(1), 30–37. doi:[10.1111/j.1750-8606.2008.00072.x](https://doi.org/10.1111/j.1750-8606.2008.00072.x).
- Flynn, L. J., Zheng, X., & Lee, S. H. (2012). Instructing struggling older readers: A selective meta-analysis of intervention research. *Learning Disabilities Research & Practice*, 27, 21–31. doi:[10.1111/j.1540-5826.2011.00347.x](https://doi.org/10.1111/j.1540-5826.2011.00347.x).
- Francis, D. J., Shaywitz, S. E., Stuebing, K. K., Shaywitz, B. A., & Fletcher, J. M. (1996). Developmental lag versus deficit models of reading disability: A longitudinal, individual growth curves analysis. *Journal of Educational Psychology*, 88(1), 3–17. doi:[10.1037/0022-0663.88.1.3](https://doi.org/10.1037/0022-0663.88.1.3).
- Fuchs, L. S., Fuchs, D., & Prentice, K. (2004). Responsiveness to mathematical problem-solving instruction: Comparing students at risk of mathematics disability with and without risk of reading disability. *Journal of Learning Disabilities*, 37, 293–306. doi:[10.1177/00222194040370040201](https://doi.org/10.1177/00222194040370040201).
- Gunter, G. A., & Kenny, R. F. (2012). UB the director: Utilizing digital book trailers to engage gifted and twice-exceptional students in reading. *Gifted Education International*, 28, 146–160. doi:[10.1177/0261429412440378](https://doi.org/10.1177/0261429412440378).
- Individuals with Disabilities Education Improvement Act of 2004, Pub L. No. 108-446 § 20 USC 1400 et seq.
- Jenkins, J. R., Schiller, E., Blackorby, J., Thayer, S. K., & Tilly, W. D. (2013). Responsiveness to intervention: Architecture and practices. *Learning Disability Quarterly*, 36, 36–46. doi:[10.1177/0731948712464963](https://doi.org/10.1177/0731948712464963).
- Juel, C. (1988). Learning to read and write: A longitudinal study of fifty-four children from first through fourth grades. *Journal of Educational Psychology*, 80, 437–447. doi:[10.1037/0022-0663.80.4.437](https://doi.org/10.1037/0022-0663.80.4.437).
- Kamil, M. L., Borman, G. D., Dole, J., Kral, C. C., Salinger, T., & Torgesen, J. (2008). *Improving adolescent literacy: Effective classroom and intervention practices: A Practice Guide* (NCEE #2008-4027). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from <http://ies.ed.gov/ncee/wwc>
- Kim, H. J. J., & Millis, K. (2006). The influence of sourcing and relatedness on event integration. *Discourse Processes*, 41, 51–65. doi:[10.1207/s15326950dp4101_4](https://doi.org/10.1207/s15326950dp4101_4).
- Kim, W., Linan-Thompson, S., & Misquitta, R. (2012). Critical factors in reading comprehension instruction for students with learning disabilities: A research synthesis. *Learning Disabilities Research & Practice*, 27, 66–78. doi:[10.1111/j.1540-5826.2012.00352.x](https://doi.org/10.1111/j.1540-5826.2012.00352.x).
- Kosanovich, M. L., Reed, D. K., & Miller, D. H. (2010). *Bringing literacy strategies into content instruction: Professional learning for secondary-level teachers*. Portsmouth, NH: RMC Research Corporation, Center on Instruction.
- Lawrence, J. F. (2009). Summer reading: Predicting adolescent word learning from aptitude, time spent reading, and text type. *Reading Psychology*, 30, 445–465. doi:[10.1080/02702710802412008](https://doi.org/10.1080/02702710802412008).
- Leu, D. J., Zawalinski, L., Castek, J., Banerjee, M., Housand, B., Liu, Y., & O’Neil, M. (2007). What is new about the new literacies of online reading comprehension? In A. Berger, L. Rush, & J. Eakle (Eds.), *Secondary school reading and writing: What research reveals for classroom practices* (pp. 37–68). Chicago, IL: NCTE/NCRL.
- Levin, H. M., Catlin, D., Elson, A. (2010). *Adolescent literacy programs: Costs of implementation*. New York, NY: Carnegie Corporation of New York. Retrieved from http://carnegie.org/fileadmin/Media/Publications/PDF/tta_Levin.pdf
- Mastropieri, M. A., & Scruggs, T. E. (2001). Promoting inclusion in secondary classrooms. *Learning Disability Quarterly*, 24, 265–274. doi:[10.2307/1511115](https://doi.org/10.2307/1511115).

- McCallum, R. S., Krohn, K. R., Skinner, C. H., Hilton-Prillhart, A., Hopkins, M., Waller, S., & Polite, F. (2011). Improving reading comprehension of at-risk high school students: The art of reading program. *Psychology in the Schools, 48*, 78–86. doi:10.1002/pits.20541.
- McCoach, D. B., & Siegle, D. (2003). Factors that differentiate underachieving gifted students from high-achieving gifted students. *Gifted Child Quarterly, 47*, 144–154. doi:10.1177/001698620304700205.
- Memorandum to State Directors of Special Education, 56 IDELR ¶ 50 (OSEP 2010).
- Meyer, B. J. F., Wijekumar, K., Middlemiss, W., Higley, K., Lei, P. W., Meier, C., & Spielvogel. (2010). Web-based tutoring of the structure strategy with or without elaborated feedback or choice for fifth- and seventh-grade readers. *Reading Research Quarterly, 45*, 62–92. doi:10.1598/RRQ.45.1.4.
- Morocco, C. C., Hindin, A., Mata-Aguilar, C., & Clark-Chiarelli, N. (2001). Building a deep understanding of literature with middle-grade students with learning disabilities. *Learning Disability Quarterly, 24*, 47–58. doi:10.2307/1511295.
- National Center for Education Statistics. (2013). *The nation's report card: Trends in academic progress 2012* (NCES 2013 456). Washington, DC: Institute of Education Sciences, U.S. Department of Education. Retrieved from <http://nces.ed.gov/nationsreportcard/subject/publications/main2012/pdf/2013456.pdf>
- National Governors Association Center for Best Practices, Council of Chief State School Officers. (2010). *Common core state standards*. Washington, DC: Author.
- Newman, L. (2006). *Facts from national longitudinal transition study 2: General education participation and academic performance of students with learning disabilities*. Menlo Park, CA: SRI International.
- Nippold, M., Duthie, J., & Larsen, J. (2005). Literacy as a leisure activity: Free-time preferences of older children and young adolescents. *Language, Speech, and Hearing Services in Schools, 36*, 93–102. doi:10.1044/0161-1461(2005/009).
- No Child Left Behind (NCLB) Act of 2001, Pub. L. No. 107-110, § 115, Stat. 1425 (2002).
- Office of Special Education and Rehabilitative Services. (2000). *A guide to the individualized education program*. Washington, DC: U.S. Department of Education. Retrieved from <http://www2.ed.gov/parents/needs/spced/iepguide/index.html?exp=3>
- Pazzaglia, F., Toso, C., & Cacciamani, S. (2008). The specific involvement of verbal and visuospatial working memory in hypermedia learning. *British Journal of Educational Technology, 39*, 110–124. doi:10.1111/j.1467-8535.207.00741.x.
- President's Panel on Mental Retardation. (1962). *A proposed program for national action to combat mental retardation*. Washington, DC: U.S. Government Printing Office. Retrieved from <http://www.archives.gov/research/americans-with-disabilities/transcriptions/naid-6050329-report-to-the-president-a-proposed-program-for-national-action-to-combat-mental-retardation.html>
- Reed, D. K. (2009). A synthesis of professional development on the implementation of literacy strategies for middle school content area teachers. *Research in Middle Level Education Online, 32*(10), 1–12.
- Reed, D. K., Swanson, E. A., Petscher, Y., & Vaughn, S. (2013). The relative effects of teacher read-alouds and student silent reading on predominantly bilingual high school seniors' learning and retention of social studies content. *Reading and Writing: An Interdisciplinary Journal*. doi:10.1007/s11145-013-9478-8
- Scheiter, K., & Gerjets, P. (2007). Learner control in hypermedia environments. *Educational Psychology Review, 19*, 285–307. doi:10.1007/s10648-007-9046-3.
- Scott, B. J., Vitale, M. R., & Masten, W. G. (1998). Implementing instructional adaptations for students with disabilities in inclusive classrooms. *Remedial and Special Education, 19*, 106–119. doi:10.1177/074193259801900205.
- Short, E. J., Schatschneider, C. W., & Friebert, S. E. (1992). The inactive learner hypothesis: Myth or reality? In N. N. Singh & I. L. Beale (Eds.), *Learning disabilities: Nurture, theory, and treatment* (pp. 302–326). New York, NY: Springer.

- Solis, M., Ciullo, S., Vaughn, S., Pyle, N., Hassaram, B., & Leroux, A. (2012). Reading comprehension interventions for middle school students with learning disabilities: A synthesis of 30 years of research. *Journal of Learning Disabilities, 45*, 327–340. doi:10.1177/0022219411402691.
- Spear-Swerling, L., & Cheesman, E. (2012). Teacher's knowledge base for implementing response-to-intervention models in reading. *Reading and Writing, 25*, 1691–1723. doi:10.1007/s11145-011-9338-3.
- Srivastava, P., & Gray, S. (2012). Computer-based and paper-based reading comprehension in adolescents with typical language development and language-learning disabilities. *Language, Speech, and Hearing Services in Schools, 43*, 424–437. doi:10.1044/0161-1461(2012/10-0108).
- Thiede, K. W., Anderson, M. C. M., & Theriault, D. (2003). Accuracy of metacognitive monitoring affects learning of texts. *Journal of Educational Psychology, 95*, 66–73. doi:10.1037//0022-0663.95.1.66.
- Torgesen, J. K., & Burgess, S. R. (1998). Consistency of reading related phonological processes throughout early childhood: Evidence from longitudinal-correlational and instructional studies. In J. Metsala & L. Ehri (Eds.), *Word recognition in beginning reading* (pp. 161–188). Hillsdale, NJ: Lawrence Erlbaum Associates.
- U.S. Census Bureau. (2012). *Profile America: Facts for features*. Retrieved from http://www.census.gov/newsroom/releases/archives/facts_for_features_special_editions/cb11-ff15.html
- U.S. Department of Education, Office of Special Education and Rehabilitative Services. (2002). *A new era: Revitalizing special education for children and their families*. Washington, DC: Author.
- U.S. Department of Education, Office of Special Education and Rehabilitative Services, Office of Special Education Programs. (2008). *30th annual report to congress on the implementation of the individuals with disabilities education act*. Washington, DC: GPO.
- Vaughn, S., Martinez, L. R., Linan-Thompson, S., Reutebuch, C. K., Carlson, C. D., & Francis, D. J. (2009). Enhancing social studies vocabulary and comprehension for seventh-grade English language learners: Findings from two experimental studies. *Journal of Research on Educational Effectiveness, 2*, 297–324. doi:10.1080/19345740903167018.
- Vaughn, S., Wexler, J., Leroux, A., Roberts, G., Denton, C., Barth, A., & Fletcher, J. (2012). Effects of intensive reading intervention for eighth-grade students with persistently inadequate response to intervention. *Journal of Learning Disabilities, 45*, 515–525. doi:10.1177/0022219411402692.
- Wanzek, J., Vaughn, S., Scammacca, N. K., Metz, K., Murray, C. S., Roberts, G., & Danielson, L. (2013). Extensive reading interventions for students with reading difficulties after grade 3. *Review of Educational Research, 83*, 163–195. doi:10.3102/0034654313477212.
- Wexler, J., Reed, D. K., Pyle, N., Mitchell, M., & Barton, E. E. (2013). A synthesis of peer-mediated academic interventions for secondary struggling learners. *Journal of Learning Disabilities*. doi:10.1177/0022219413504997.
- Williamson, G. L. (2008). A text readability continuum for postsecondary readiness. *Journal of Advanced Academics, 19*, 602–632.
- Willoughby, T., Anderson, A., Wood, E., Mueller, J., & Ross, C. (2009). Fast searching for information on the Internet to use in a learning context: The impact of prior knowledge. *Computers & Education, 52*, 640–668.
- Zhang, S., & Duke, N. K. (2008). Strategies for Internet reading with different reading purposes: A descriptive study of twelve good Internet readers. *Journal of Literacy Research, 40*, 128–162. doi:10.1080/10862960802070491.