

Reading Accommodations Research		
Audio read aloud on CD	A total of 1,181 fourth-graders -- 527 with LD and 654 without disabilities -- and 847 eighth- graders -- 376 with LD and 471 without disabilities -- from 84 public and private schools in NJ. Overall, lower test scores for students with reading disabilities than for students without. A differential boost was identified for students with LD who received the pre-recorded audio presentation accommodation at fourth and eighth grade levels on standardized measures of reading comprehension	Laitusis, C. C. (2010). Examining the impact of audio presentation on tests of reading comprehension. <i>Applied Measurement in Education</i> , 23 (2), 153-167.
Audio textbooks	Improved history content area assessments for secondary students with mild disabilities, particularly when combined with organizing strategies.	Boyle, E. A., Rosenberg, M. S., Connelly, V. J., Washburn, S. G., Brinckerhoff, L. C. & Banerjee, M. (Summer 2003). Effects of audio texts on the acquisition of secondary-level content by students with mild disabilities. <i>Learning Disability Quarterly</i> , 26, 2-3-214.
Digital textbooks	Using digital textbooks with speech output, glossaries, highlighting of main ideas and supplementary explanations, found that high school students scored significantly higher on chapter tests	MacArthur, C. A., & Haynes, J. B. (1995). Student Assistant for Learning from Text (SALT): A hypermedia reading aid. <i>Journal of Learning Disabilities</i> , 28, 150-159.
Large scale test accommodations	Accommodated test scores for 4th and 7th graders in the state of Washington and found that more accommodations were provided to 4th graders compared to 7th graders, that special education students with accommodations performed better than students in special education who did not receive accommodations, and that there was no undue advantage compared to general education students.	Johnson, E., Kimball, K., Brown, S., & Anderson D. (2001). A statewide review of the use of accommodations in large-scale, high stakes assessments. <i>Exceptional Children</i> , 67(2), 252-264.
Large scale test accommodations	A study of statewide assessments on reading and math across a three-year period by found that read aloud accommodations had a positive impact on student performance for 4th graders, but not for 8th graders, and that the benefit was greatest on test items classified as difficult to read.	Bolt, S. E. & Thurlow, M. L. (2011). Item-level effects of the read-aloud accommodation for students with reading disabilities. <i>Assessment for Effective Intervention</i> , 33 (1), 15-28
Read aloud	This study tested students' performance on a reading test with and without read-aloud accommodations. 79 eighth-grade students, 40 students (51%) with a disability, 39 were general education students. The use of the read-aloud accommodation did not significantly improve the test performance of either group of students. (No undue benefit). More students without disabilities thought they did better when tested with read-aloud accommodations. More students with disabilities preferred the accommodated test.	McKevitt, B. C., & Elliot, S. N. (2003). Effects and perceived consequences of using read aloud and teacher-recommended testing accommodations on a reading achievement test. <i>The School Psychology Review</i> , 32 (4), 583-600.
Read aloud	Study investigated the effect of read aloud accommodations on test structure and student performance for 10th graders with disabilities on a reading exit exam. Results indicated that oral administration accommodations served to level the playing field for students whose disabilities were presumably severe enough to require oral accommodations.	Huynh, H., & Barton, K. E. (2006). Performance of students with disabilities under regular and oral administrations of a high-stakes reading examination. <i>Applied Measurement in Education</i> , 19 (1), 21-39
Read aloud	184 fourth grade students without learning disabilities (LD) and 181 fourth and fifth grade students (49% of sample) with LD participated in this study. A greater proportion of students with LD manifested increases in performance with the read-aloud accommodation compared to students without LD as measured by reading comprehension passages	Fuchs, L. S. (2000). <i>Research report on reading. The validity of test accommodations for students with learning disabilities: Differential item performance on reading tests as a function of test accommodations and disability status</i> . Newark, DE: University of Delaware Education Research and Development Center.

Read aloud	260 sixth, seventh, and eighth grade students (24% with a learning disability and 76% without such a disability) participated. Using the IOWA Tests of basic skills, on one condition the test was administered according to standard procedures; in the other condition the test was read-aloud to the students. Both groups (LD-R and non-LD) achieved significantly higher test scores with the read-aloud test administration. Extra time under the read-aloud condition may have contributed to inflated scores.	Meloy, L. L., Deville, C., & Frisbie, D. (2002). The effect of a read aloud accommodation on test scores of students with and without a learning disability in reading. <i>Remedial and Special Education</i> , 23(4), 248-255
Read aloud	182 3rd grade students without dyslexia and with dyslexia were randomly assigned to accommodated administration or standard administration Using the Texas Assessment of Knowledge and Skills, results showed a large increase in performance associated with read-aloud accommodation for students with dyslexia and not significant change for those in the control group across standard and accommodated administrations.	Fletcher, J. M., Francis, D. J., Boudousquie, A., Copeland, K., Young, V., Kalinowski, S., et al. (2006). Effects of accommodations on high-stakes testing for students with reading disabilities. <i>Exceptional Children</i> , 72, 136–150.
Read aloud	459 4th graders and 428 7th graders with disabilities; 486 4th graders and 567 7th graders without disabilities. All students took the state reading exam without accommodations in the previous year, but then were administered the same test one year later, randomly assigned to read-aloud via adult reader or standard administration. Performance gains for students who received read-aloud conditions were higher for 4th grade students with disabilities than those without. In 7th grade, both groups received a performance boost from read-aloud accommodations.	Randall, J., & Engelhard, G., Jr. (2010). Performance of students with and without disabilities under modified conditions. <i>Journal of Special Education</i> , 44, 79–93.
Read aloud by student	Impact of student-reads-aloud accommodation (i.e. student reads text but aloud) on the performance of middle and high school students with and without learning disabilities on a test of reading comprehension. 311 6th-10th grade students who took a reading test in a standard and an accommodated condition. 74% percent (230 students) were students with learning disabilities. As a group, students' test performance did not differ in the two conditions, and students with learning disabilities did not benefit more from the accommodation than students without learning disabilities. Students with learning disabilities showed greater variability in their response to the accommodation.	Elbaum, B., Arguelles, M. E., Campbell, Y., & Saleh, M. B. (2004). Effects of a student-reads-aloud accommodation on the performance of students with and without learning disabilities on a test of reading comprehension. <i>Exceptionality</i> , 12(2), 71-87.
Read aloud CD	1,181 fourth-grade students and 847 eighth-grade students from throughout 84 New Jersey public schools. Of the fourth-graders, 527 had reading-based learning disabilities and 654 had no disabilities; of the eighth-graders, 376 had reading-based learning disabilities, and 471 had no disabilities. Students without disabilities who received the read-aloud accommodations scored higher than the group without disabilities who did not receive the accommodation.	Cook, L., Eignor, D., Steinberg, J., Sawaki, Y., & Cline, F. (2009). Using factor analysis to investigate the impact of accommodations on the scores of students with disabilities on a reading comprehension assessment. <i>Journal of Applied Testing Technology</i> , 10(2).
Read aloud speed	Established that children as early as first grade were able to integrate visual and auditory information effectively when books were read aloud, and indicated that adult readers should read aloud at a rate that is higher than students' oral reading rates.	McMahon, M. L. (1983). Development of reading-while-listening skills in the primary grades. <i>Reading Research Quarterly</i> , 1938-52.
Read aloud speed	Confirmed that reading aloud at the student's oral rate emphasized word recognition accuracy at the expense of comprehension, and he indicated that it was effective to set the speed of reading 23% over the student' oral rate.	Lionetti, T. M & Cole, C. L. (2004). A comparison of the effects of two rates of listening while reading on oral reading fluency and reading comprehension. <i>Education and Treatment of Children</i> , 27(2), 114-129.

Read aloud video	Students completed two forms of math achievement test. One form was a typical standardized test and the other form was presented on a video monitor (each problem was read-aloud and the words were shown on the screen). 1513 fourth, fifth, seventh, and eighth grade students with a total of 47 students receiving special education who either had an IEP identifying them as LD in reading or identified by math teacher as a candidate for a reading accommodation. Results suggest that some low reading students performed significantly better when test items were read aloud. The accommodation did not seem to benefit high readers.	Helwig, R., Rozek-Tedesco, M. A., & Tindal, G. (2000). <i>An oral versus standard administration of a large-scale mathematics test</i> . Newark, DE: University of Delaware Education Research and Development Center.
Read aloud video	52 elementary school students (483 fourth grade students and 269 fifth grade students) and 863 middle school students (510 seventh grade students and 353 eighth grade students) participated in the study. Teachers rated students according to their perceived performance in reading (low or high). 169 students with disabilities participated. Math and reading: The standard version had multiple problems displayed across opposing pages while the video version had only one problem per page. The general education low readers and the special education students with an IEP in reading performed better under the video testing condition than the standard testing condition.	Lee, D., & Tindal, G. (2000). <i>Teachers perception on students' reading performance and test accommodation</i> . Newark, DE: University of Delaware Education Research and Development Center.
Read Aloud Video	338 students in grades 4 and 5. Of these participants, 76 students (22% of the sample) were identified with various disabilities. The accommodation was a "modification" read-aloud, as presented through video, on a reading comprehension test. All students performed better in the read-aloud through video presentation condition, with most students with disabilities benefiting more than students without disabilities.	Crawford, L., & Tindal, G. (2004). Effects of a read-aloud modification on a standardized reading test. <i>Exceptionality</i> , 12(2), 89-106.
Read aloud video vs. computer	The test was administered under two conditions: 1) a teacher-paced video accommodation, 2) a student-paced computer administration. Under both conditions, the items were presented individually and read-aloud to students. 50 seventh-grade students participated in this study (25 general education and 25 special education students). All students in special education had reading disabilities, and 17 also had math disabilities. Two multiple-choice math tests taken from a statewide test. General education students performed significantly better than students with disabilities on both the teacher-paced video and student-paced computer administrations. Within the group of students with disabilities, the student-paced computer administration mean score was significantly higher than the mean score under the teacher-paced video administration. Low-performing students in general education demonstrated better performance under the student-paced computer administration as well.	Hollenbeck, K., Rozek-Tedesco, M. A., Tindal, G., & Glasgow, A. (2000). An exploratory study of student-paced versus teacher-paced accommodations for large-scale math tests. <i>Journal of Special Education Technology</i> , 15(2), 27-36.

Read-aloud accommodation in either the paper-and-pencil or computer-based format.	Participants were students with disabilities who were eligible for a read-aloud accommodation. Data came from scores for 3rd through 11th graders from a large-scale assessment conducted in 2007 and 2008. There were differences in effect sizes between subjects, with larger effect sizes found for reading than for math. Students in the PPT condition with an adult reader had higher mean scores in almost all academic content areas than those with the CBT read-aloud condition, with effect sizes ranging from extremely small to moderate. Using differential item functioning, students with the same ability level had the same probability of responding correctly to an item whether they used a text reader or had an adult reader. Finally, teachers and students both reported that students preferred the CBT condition. Researchers concluded that the CBT condition has the potential to provide students with a fair alternative testing condition.	Flowers, C., Kim, D. H., Lewis, P., & Davis, V. C. (2011). A comparison of computer-based testing and pencil-and-paper testing for students with a read-aloud accommodation. <i>Journal of Special Education Technology</i> , 26(1), 1-12.
Reading navigation	219 4th-grade students including ELL, students with special needs, and non-special education students. Reading comprehension assessment on paper; on a computer using scrolling text to navigate through passages; or on a computer using paginated text to navigate through passages. There were no significant differences in reading comprehension scores across testing modes. The majority of students who took the reading test on a computer indicated that they would prefer to take the test on computer.	Higgins, J., Russell, M., & Hoffman, T. (2005). Examining the effect of computer-based passage presentation on reading test performance. <i>The Journal of Technology, Learning, and Assessment</i> , 3 (4).
RWL	Research demonstrated increases in word recognition, comprehension and vocabulary in 5th grade students.	O'Day, P. S. (2002). Reading while listening: Increasing access to print through the use of audio books. Dissertation Dec. 2002.
RWL vs. silent reading	Study focused on the benefits of RWL for middle school students with reading and emotional disabilities and found that the benefits were higher compared to silent reading	Hale, A. D., Skinner, C. H., Winn, B. D., Oliver, R., Allin, J. D. & Molloy, C. C. M. (2005). An investigation of listening and listening-while-reading accommodations on reading comprehension levels and rates in students with emotional disorders. <i>Psychology in the Schools</i> , 42(1), 39-51.
Text reader study tools	Using (Kurzweil) with study tools with postsecondary students with attention disorders, results indicated that the students were less distractible, read with less fatigue for longer periods of time, and completed assignments in less time.	Hecker, L, Burns, L, Elkind, J., Elkind, K, Katz, L. (2002). Benefits of assistive reading software for students with attention disorders. <i>Annals of Dyslexia</i> , 52, 243-272.
Text reader study tools	Using Read and Write Gold software with secondary students with reading levels one to four levels below average, the use of text-to-speech with study tools resulted in improvements in comprehension and spelling	Lange, A. A., McPhillips, M., Mulhern, G., Wylie, J. (summer 2006). Assistive Software Tools for Secondary-Level Students with Literacy Difficulties. <i>Journal of Special Education Technology</i> 21(3) 13-23.
TTS	Improved phonological awareness and decoding skills.	MacArthur, C. A., Ferretti, R. P., Okolo, C. M. & Cavalier, A. R. (2001). Technology applications for students with literacy problems: A critical review. <i>The Elementary School Journal</i> , 101 (3), 273-301.
TTS	Computer-based speech feedback led to improvement in word identification in students with reading disabilities. However, for students with severe reading difficulties, speech feedback could not overcome deficits in phonological awareness.	Olson, R. K., & Wise, B. W. (1992). Reading on the computer with orthographic and speech feedback: An overview of the Colorado remediation project. <i>Reading and Writing</i> , 4(2), 107-144.

TTS	Increased comprehension in middle school students who used text to speech software.	Elkind, J., Cohen, K., & Murray, C. (1996). Using computer-based readers to improve reading comprehension of students with dyslexia. <i>Annals of Dyslexia</i> , 42, 238-259.
TTS	High school students with learning disabilities improved their scores using text-to-speech;Markedly better performance for students who were considered low average; Benefited when using text readers to read passages longer than 100 words. Students reported that computers with TTS were easier to use, and students preferred features that allowed them to be independent; 70% of students reported that it helped with comprehension;Preferred TTS to a human reader due to ease of use and opportunity for control	Dolan, R. P., Hall, T. E., Banerjee, M., Chun, E. & Strangman, N. (2005). Applying principals of universal design to test delivery: The effect of computer-based read aloud on test performance of high school students with learning disabilities. <i>Journal of Technology, Learning, and Assessment</i> , 4 (7), 4-32.