

Using Text-to-Speech Technology to Improve the Quality of Online Learning (30 minutes)



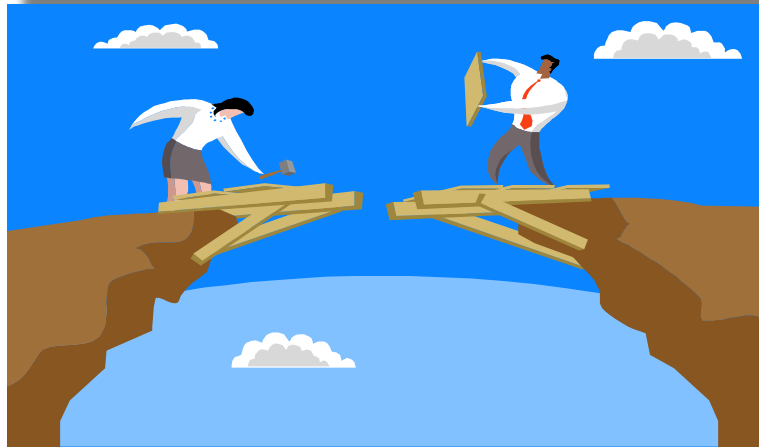
MN eLearning Summit

August 1, 2018

Karen LaPlant
Dr. Sheri Hutchinson



Enhancing the Learning Experience



By listening
to on-line learning content
that matters to you
Anytime and Anywhere



Who Benefits from Text to Speech

- Low Illiteracy
- Dyslexia
- Multi-taskers
- Returning Adults
- Mobile Users
- Low Vision or No Vision
- Cognitive or other Disabilities
- ELL-English Language Learners



Motivation. Results. Self-esteem.



The Workings of Text-to-Speech

- Text-to-Speech technology is a valuable element in making online content more accessible for “less skilled readers”:

Journal of Learning Disabilities

Research

Bimodal Reading: Benefits of a Talking Computer for Average and Less Skilled Readers

Julie Montali

Julie Montali is a doctoral student in school psychology at Syracuse University. Her research interests include assessment of and intervention for reading disabilities, and understanding memory as it relates to learning and reading disabilities.

Lawrence Levandowski

Lawrence Levandowski, PhD, is an associate professor of psychology and director of training in school psychology at Syracuse University. His research and writing activities focus on understanding the neuropsychological, cognitive, and psychosocial aspects of learning disabilities. Address: Lawrence Levandowski, Department of Psychology, 472 Huntington Hall, Syracuse University, Syracuse, NY 13244.

Studies have shown that when information is presented through visual and auditory channels simultaneously (i.e., bimodal presentation), speed of processing and memory recall are enhanced. The present study demonstrated the efficacy of a bimodal approach to fostering reading comprehension. Eighteen average readers (9 girls and 9 boys) and 18 less skilled readers (8 girls and 10 boys) in Grades 8 and 9 participated in the study. Students were presented with social studies and science passages via a computer. Passages were presented in three conditions: visually (on screen), auditorily (read by digitized voice), and bimodally (on screen, highlighted, while being voiced). Following each passage, students answered 10 oral-response, short-answer comprehension questions. Results indicated that less skilled readers comprehended more with bimodal versus unimodal presentations. Overall, their performance in the bimodal condition was commensurate with average readers' comprehension in the visual condition. For less skilled readers, an increase in word recognition from pre- to posttesting on word lists was found across conditions. In addition, results of a brief consumer satisfaction survey suggested that low-skilled readers felt most successful in terms of their comprehension when passages were presented bimodally. Several clinical issues involved in presenting information bimodally using computers are discussed.

Journal of Learning Disabilities, Vol. 29, No. 3, 271-279 (1996)
DOI: 10.1177/002221949602903025



Missouri Assistive Technology Study

Improved Student Outcomes

- Utilizing the performance measures required of all states by the IDEA State Performance Plan (SPP) the following outcomes were realized for these students.
 - 95% graduated on time (one completed a trade program)
 - 85% improved academic achievement (evidenced through improved grades)
 - 55% increased time in regular education and decreased time in special education
 - 95% decreased reliance on human assistance
 - 55% increased parent satisfaction (evidenced by unsolicited positive parental contact)

⑩ Link: <http://www.at.mo.gov/documents/tts-summary-june08.doc>



Research Tells Us

- Students who fall behind as readers read less; this, in turn, can increase the skills gap between struggling readers and their peers.
- Self-Efficacy (belief in oneself as a reader) is half the battle in helping students learn to read.
- Choice- in what to read, when to read, and how to read- acts as a powerful motivator for all students and especially for those who struggle with reading.
- Text-to-speech technology facilitates student choice, differentiation, and self-advocacy.

From [The Voice of Text-to-Speech Technology: One Possible Solutions for Struggling Readers?](#) By Dr. Michelann Parr



Publishers: Examples



Library resources used by secondary and college students for school research with magazine and book content updated daily



Educational assessment solutions for the early learner, K–12, and adult basic education markets.



Library resources used by secondary and college students for school research with magazine and book content updated daily



E-textbook platform used to replace the printed textbook for college students



E-textbook used by secondary school students and teachers at school and home



MindTap: Cengage eBook platform

See outcomes improvement link below in notes

Documentation Pride MindTap | MindTap - Windows Internet Explorer

http://qae-ng.cengage.com/static/nb/ui/index.html?nbId=9888&nbNodeId=605070&isMaster=tr

Google

Goedemorgen

Favorieten | Readspeaker.com - Reads... | Partner Extranet | Google

Q4C ~ salesforce... | Gale World Histor... | Saving Our Earth ~... | Documentatio... | Pagina | Beveiliging | Extra

MindTap™

Amber Vendor | Customer Support | Logout

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MindTap™

Documentation Pride MindTap
Mary Beth Norton, Carol Sheriff, David W. Blight, Howard P. Chudacoff, Frederik Logevall, Beth Bailey, Debra Michals

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Volume I: To 1877

Catlin, George (1796-1872). *Bod-a-sin*. Chief of the Tribe. 1830.

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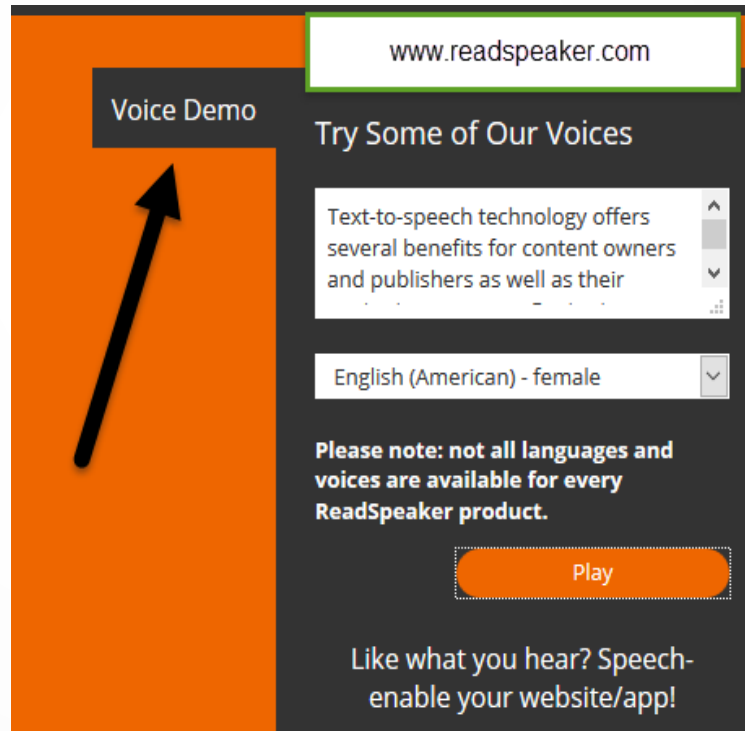
TTS in education is here to stay

- TTS makes educational methods stronger and better: “enhancing the learning experience”
- Article <http://gettingsmart.com/2015/06/is-text-to-speech-technology-beneficial-for-struggling-readers/>



Human Voices in ReadSpeaker

Mobile Friendly
Easy to Use
Cost Effective
High Quality Voices
Customizable



www.readspeaker.com

Voice Demo

Try Some of Our Voices

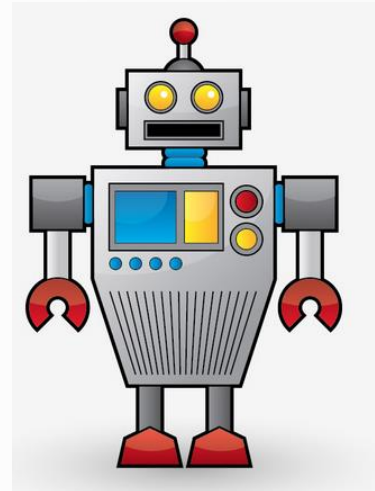
Text-to-speech technology offers several benefits for content owners and publishers as well as their

English (American) - female

Please note: not all languages and voices are available for every ReadSpeaker product.

Play

Like what you hear? Speech-enable your website/app!



Text to Speech: ReadSpeaker LTI

- Change Highlighting and text font colors
- Speed up or Slow Down Reading
- Increase text visibility

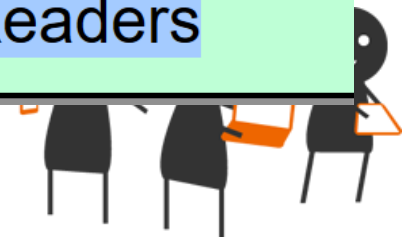


Every learner has favored methods for obtaining, comprehending, and retaining information. Some are visual learners, some are auditory learners, and some are kinesthetic learners. However, most learn best through a combination of these three tactics.

Enhanced text visibility

On Off

The Best in Literacy Support for Struggling Readers



Improve Student Outcomes Meet Universal Design Needs



Every learner has favored methods for obtaining, comprehending, and retaining information. Some are visual learners, some are auditory learners, and some are kinesthetic learners. However, most learn best through a combination of these three tactics.

Enhanced text visibility

On Off

The Best in Literacy Support for Struggling Readers

Content from websites, emails, scanned documents, textbooks, PDFs and more. Students can listen to any



Read Quizzes with LTI

- **ReadSpeaker LTI Example**
- **Sign up for Free Textaid Account—
but must be LTI to read D2L
Discussions and Quizzes!**



Demo & QUESTIONS???



Thank You For Attending

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