

# TECHNOLOGY ASSISTED LEARNING

BY KAYLEIGH, JESSICA L,  
MADI B & JESSICA H



COMPUTER ASSISTED  
INSTRUCTION



SPEECH-TO-TEXT  
SOFTWARE



TEXT-TO-SPEECH  
SOFTWARE



SMARTBOARDS

# COMPUTER ASSISTED INSTRUCTION

BY KAYLEIGH

An interactive instructional technique where a computer is used to present classroom information and material, and monitor the learning that takes place

## FUNCTIONS

An interactive instructional technique where a computer is used to present classroom information and material, and monitor the learning that takes place

## BENEFITS WHICH TYPES OF STUDENTS

- Students with anxiety
- Learning disabilities (ADHD and Dyslexia)
- Deaf student
- As well as students who are independent, self motivated, and need more feedback and stimulation

## BENEFITS

- Self paced learning: Learners can move as slowly or as quickly as they like through a program, Can repeat some task or review material, Program will not tire or complain about repetitions
- Can skip over topics if information is already known, making the learning process more efficient
- Self directed learning
- Can skip over topics if information is already known, making the learning process more efficient
- Self directed learning
- Exercising of various senses
- Ability to represent content in a variety of media
- Provide quicker and direct feedback

## CHALLENGES

- Can be overwhelming
- Tendency to use multimedia "gimmicks"
- Malfunctioning equipment

## EXAMPLES

- Two basic types: tool & tutor
- Tutor: drill & practice, tutorials, simulations & games

<http://www.inspiration.com/>

<http://www.aplusmath.com>[https://](https://www.coolmath4kids.com/)

[www.coolmath4kids.com/](http://www.coolmath4kids.com/)

# SPEECH-TO-TEXT SOFTWARE

BY JESSICA H

A type of assistive software

## FUNCTIONS

recognizes and converts words that are spoken aloud to electronic written text

## BENEFITS

- By removing physical barriers, access to technology improves
- Allows students to write
- Often students who struggle with the technical components of writing, such as spelling, handwriting, and transcribing thoughts while brainstorming. Speech-to-Text software allows students to not have to worry about the technical components of writing, so students can write faster and more freely and create a piece that is more thoughtful and deliberate
- Allows students to understand a different way of learning
- The student becomes independent with using the program. Oftentimes students will feel embarrassed at making the transcriber wait and they end up not planning as much as they could.
- Speech-to-text software has been shown to be a remedial function for spelling and reading deficits as seeing the word appear on the screen as the student says it allows students to gain insight into the sound-symbol correspondence

## CHALLENGES

- can be frustrating to get used to
- improves accuracy with use (gets adjusted to the voice, etc.) so it is important to use with a computer with a good amount of memory - not the most portable

## BENEFITS WHICH TYPES OF STUDENTS

- physical learning disabilities and impairments (and thus the inability to type)
- dysgraphia or dyslexia
- vision impairments
- foreign language learners

## EXAMPLES

- Free: Google Docs Voice Typing (Free, Google Docs), Speechnotes (Free, Chrome), Apple Dictation (Free, Mac), Windows Speech Recognition (Free, Windows)
- Paid: Dragon Professional Individual (99% accuracy, \$300), Braina (recognized over 100 languages, \$239)

# TEXT-TO-SPEECH

BY MADI B

Assistive software, program or app that helps convert text-to-speech.

## FUNCTIONS

- Using buttons of images or text within the app, the individual will make a sentence and the device will repeat the sentence back to them using dialogue.
- Other programs highlight sentences while reading a document and will repeat the sentence back to the individual.

## BENEFITS

- Gives access to content to all learners
- Individuals with different learning styles
- More access to technology
- Allows students to understand a different way of learning

## CHALLENGES

- Not always portable
- Can be too loud in a classroom environment
- Some apps make the sentence short with not enough room for other information in it
- Can break up the sentence in a weird way

## BENEFITS WHICH TYPES OF STUDENTS

- With speech impairments
- Who can't say/read long amounts of text
- Dyslexia
- Visual impairments
- Low literacy readers
- Foreign language learners

## EXAMPLES

- Pragmatic Organisation Dynamic Display (PODD)
- Ivona
- Natural Reader
- iSpeech
- TextSpeech Pro
- Read the Words

# SMARTBOARDS

BY JESSICA L

A combination of an electronic whiteboard and a computer screen. It looks like an electronic white board with a projector.

## FUNCTIONS

- SMARTBoards can display images on the screen and allow the user to draw on top of the image at the same time.
- SMARTBoards come with preloaded activities that can be downloaded and used in teachers lessons or for students learning.
- SMARTBoards are able to bring speech to text and text to speech.
- SMARTBoards provide an easy way to add large visuals, videos, and colorful texts while teaching.
- Can be used to highlight important text on the screen.

## BENEFITS WHICH TYPES OF STUDENTS

- Helps students with visual impairments.
- SMARTBoards can share information with students on personal devices through screen sharing technology.
- Students can have a laptop or ipad in front of them presenting the information from on the SMARTBoard.
- Helps students with reading and processing disorders.
- Teachers and students can use the SMARTBoard to bring speech to text or text to speech for students who may struggle with their reading or processing skills.
- Helps students with physical disabilities.
- For example, if a student is unable to our struggles holding a pencil,
- SMARTBOARDS have touch screens that students can use to write with their fingers.
- Can benefit visual and hands on learners.
- Since SMARTBoards are able to project visuals, teachers can use this technology to add more pictures and videos into their lessons.

## CHALLENGES

- Not enough training given on how to use a SMARTBoard
- Can be expensive, training and installation costs
- Height of whiteboard can make it difficult for some students to reach the top half of the SMARTBoard
- Glare and looking at SMARTBoard to long can cause eye strain

# REFERENCES

- Computer Assisted Instruction. (2008). Successful Science and Engineering Teaching, 155–174.  
doi: 10.1007/978-1-4020-6910-9\_10
- Berardo, M. (2018). On Computer-Assisted Language Learning and the AEC. *Issues in Language Instruction*, 3, 15. doi: 10.17161/ili.v3i0.6985
- Vogel, D., & Klassen, J. (2008). Technology-supported learning: status, issues and trends. *Journal of Computer Assisted Learning*, 17(1), 104–114. doi: 10.1111/j.1365-2729.2001.00163.x
- Pappas, C. (2015). Top 10 Text to Speech (TTS) Software For eLearning (2017 Update). Retrieved from <https://elearningindustry.com/top-10-text-to-speech-tts-software-elearning>
- Torreno, S. (2009, November 5). SMARTBoards in Special Education Classrooms. Retrieved from <https://www.brighthubeducation.com/special-ed-inclusion-strategies/55013-advantages-of-using-smartboards-for-students-with-special-needs/>.
- Interactive Whiteboards: An Assistive Technology Tool for Students with LDs. (2018, May 28). Retrieved from <https://www.ldatschool.ca/smartboards/>.
- Interactive whiteboards: screen sharing with learners who have vision impairment. (2017, December 21). Retrieved from <https://www.rnib.org.uk/insight-online/interactive-whiteboard-screen-sharing-vision-impairment>.
- Speech to Text Programs. (n.d.). Retrieved from <https://www.teachspiced.ca/speech-to-text-programs>.
- Chi, C. (n.d.). 8 Voice-to-Text Software That'll Help You Work Faster. Retrieved from <https://blog.hubspot.com/marketing/voice-to-text>.
- Disadvantages of Interactive Whiteboards. (n.d.). Retrieved from <https://www.eztalks.com/whiteboard/disadvantages-of-interactive-whiteboards.html>.
- Learn about the benefits of text to speech. (2019, April 18). Retrieved from <https://www.readspeaker.com/learn-more/benefits-of-text-to-speech/>.
- Learn about the benefits of text to speech. (2019, April 18). Retrieved from <https://www.readspeaker.com/learn-more/benefits-of-text-to-speech/>.