

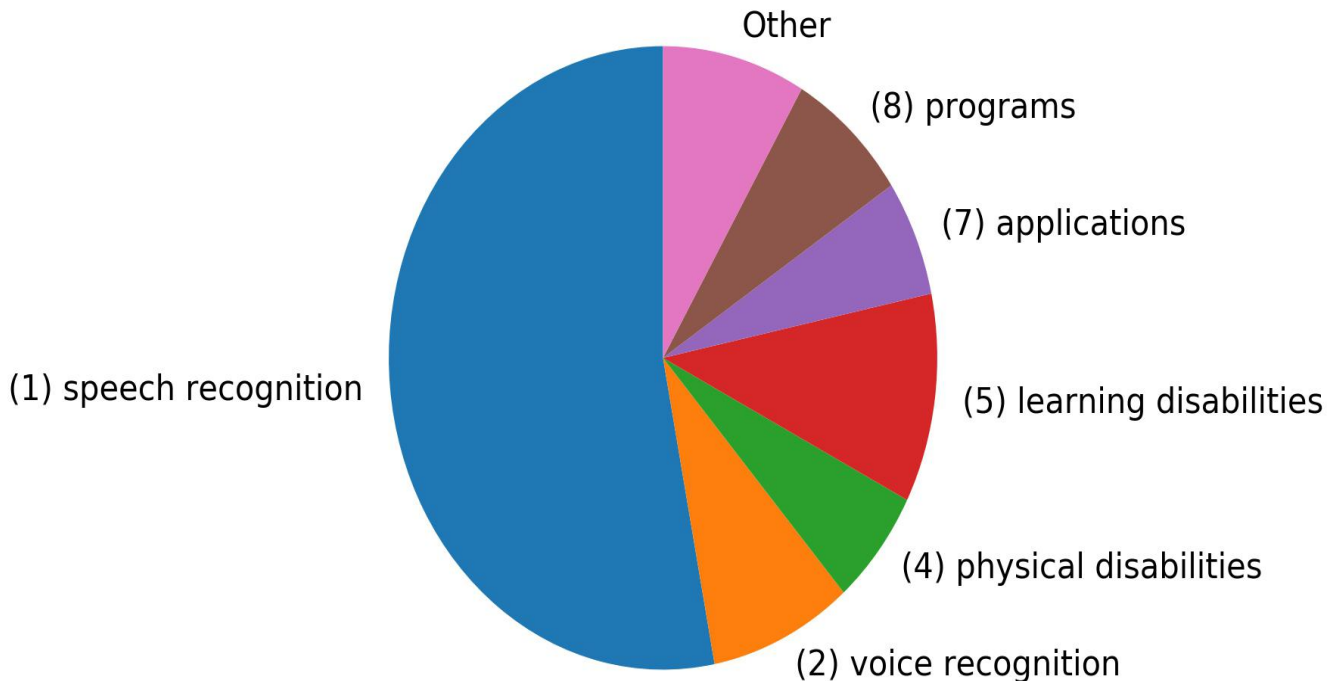
Lesson 1: Speech Recognition in Education

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Keywords mentioned in this lesson:



Pie chart plot for the frequencies of identified keywords (in sequence of mention, counter clockwise)

**Other Keyword Terms: (3) interface, (6) translate, (9) dyslexia, (10) repetitive strain injuries, (11) assistive technology*

Course content covered in this lesson:

- 1 Speech Recognition for Learning
 - 1.1 The difference between Speech Recognition and Voice Recognition
 - 1.2 Speech Recognition Technology in everyday life
 - 1.3 Speech Recognition as Assistive Technology
 - 1.3.1 Speech Recognition for Physical Impairments
 - 1.3.1.1 Carpal Tunnel Syndrome and Arthritis
 - 1.3.2 Support for Learning Disabilities
 - 1.3.2.1 Dyslexia and Dysgraphia
 - 1.4 Voice Recognition

Lesson Transcript

speech recognition for learning speech recognition also referred to as speech to text or voice recognition is technology that recognises speech allowing the voice to serve as the main interface between the human and the computer is in February discusses how the current speech recognition technology facilitates learning learning as well as how the technology can develop to Advanced Learning in the future all the speech recognition has a potential benefits for students with physical disabilities and severe learning disabilities the technology has been inconsistent be implemented in the classroom over the years as the technology continues to improve however many of the issues are being addressed if you haven't use speech recognition with your students where he it may be time to take another look both Microsoft and apple have built speech recognition capabilities into their operating systems so you

can easily try off is features with your students to find out where the speech recognition technology might be right for the speech recognition vs speech-to-text what's the difference when researching speech recognition tools for your child for your classroom you may very 3C technology is referred to as speech to text voice recognition or speech recognition sometimes all...

the thing the same product description that the terms can be confusing they all refer to technologies that can translate spoken language in to digitise text auto and spoken commands into actions hy-vee open Microsoft Word voice recognition can refer to products that need to be trained to recognise a specific voice such as dragon Naturally Speaking or those products used in applications like water medical centres that are capable of recognising a limited vocabulary from a user quite frequently has an article written speech recognition and voice recognition are used interchangeably speech recognition technology in everyday life speech recognition and speech to text programs have a number of applications for users with and without disabilities speech-to-text has been used to help struggling writers used their writing production and to provide alternate access to a computer for individuals with physical impairments other applications include speech recognition for foreign language learning voice activated products for the blind and many familiar mainstream technologies new developments in the...

technology have driven innovation in many familiar customer service industry applications we have all used voice recognition technology used in our daily lives many times without even thinking about it or automated phone menus and directories voice-activated dialling are cell phones and integrated voice commands on smartphones or just a few examples medical and law professionals use voice recognition everyday to dictate notes and transcribe important information new users of the technology include military applications navigation systems automotive speech recognition smart homes designed with voice command devices and video games such as n for which allows the player to give orders to their troops using only their voice benefits of speech recognition for struggling writers populations that may benefit from speech recognition technologies for learning include users with learning disabilities including dyslexia and dysgraphia repetitive strain injuries such as carpal tunnel syndrome poor or limited motor skills vision...

impairment physical disabilities and limited English language benefits for students with disabilities may include improved access to the computer increases in writing production improvements in writing mechanics increased independence decreased anxiety around writing and Improvements in poor reading and writing abilities improved access for students with motor skill limitations physical disabilities blindness or low Vision or other difficulties accessing a standard keyboard and mouse hands-free computing through the use of speech recognition technologies may be beneficial by removing the physical barriers to writing and navigating the computer you can increase student access to technology and classroom activities writing production for students with learning disabilities speech recognition technology can encourage writing that is more thoughtful and deliberate studies with middle and high school students with learning disabilities have shown that input via speech is less challenging and that students frequently generate papers that have longer and better quality using speech recognition technologies mechanics of writing...

speech recognition technologies in conjunction with word processing abilities can help reduce some of the difficulties that students may face with writing mechanics because students can often write more quickly with speech recognition tools it eliminates potential obstacles such as difficulty work handwriting or the need to transcribe thoughts while brainstorming often writers with learning disabilities will skip over words when they are unsure of the correct spelling leading to pieces of writing that are short missing key elements or not reflective of the students true abilities speech recognition and word processors can potentially alleviate some of these concerns by allowing the students to get their thoughts out on paper with a orange ca these or other technical writing component increased independence for students with physical disabilities poor motor skills for learning disabilities a human transcriber is a low-tech solution for the classroom that allows the Focus to shift from the physical act of writing to expressing thoughts and knowledge however a transcriber makes the student dependent upon a teacher or 84 writing task students who use...

transcribers for writing often reports spending less time planning and organising because they felt they were keeping the transcriber writing or waiting or they felt embarrassed about making mistakes or asking for multiple readings of what was written using speech-to-text tools can allow the students to be more independent in their writing and other academic activities if the speech-to-text program also includes text-to-speech features the student may hear the text read aloud to them multiple times and correct the errors more independently decreased anxiety in addition to allowing the student to work in a more independent manner speech recognition can allow students to write Without Fear of spelling errors helping them Boyd the anxieties associated with mechanics organisation

and editing many struggling writers feel embarrassed about the appearance of their rights due to brevity of sentence or paragraph length eligibility of handwriting and all misspelt words for students who are English language learners who are learning a second language speech recognition programs can allow them to practice pronunciation for the safe low-stress environment...

students get engaged in Multiple repetitions of an unfamiliar word without worrying about feeling embarrassed some popular foreign language software programs now include speech recognition features for just this purpose improvements in cool reading and writing abilities research has shown that speech recognition tools can also serve a remedial function for students with learning disabilities in the areas of reading and writing in allowing students to see the words on screen as they dictate students can gain insight into important elements of Bernie Mac the waves such as sound symbol correspondence and students speak and see the words appear on the screen the speech-to-text till directly demonstrates the relationship between Hayward and looks and sounds this bimodal presentation of speech can be especially helpful for students with learning disabilities and is thought to be wise speech recognition has been found effective in remediating Reading and spelling deficits another key benefit of speech recognition technologies is the error correction process because no speech recognition product is completely accurate it requires users to...

check the accuracy of each word uttered as sentences are being dictated when an air is made the child must then find the correct word among the list of similar words and shoes at this process necessitates that the user examines the word listen closely compare words that look or sound alike and make decisions about the first word for the specific situation this can give kids with ldf used in Reading and spelling as they learn to discriminate between similar words challenges despite advances over the past 20 years speech recognition technology as it is today still presents challenges for students with disabilities as with any new technology to students must initially become comfortable with using speech-to-text including training it to recognise their voices gaining experience with the new way of writing understanding the differences between writing and speaking and correcting errors within the text for students with learning disabilities struggling readers and writers or very young students this may induce additional frustrations with the writing process though the software has been improved...

speech-to-text programs are not always capable of recognising the voices of young children so students must have just speaking more slowly so that the technology can more accurately transcribe their voices because speaking to write is an activity that requires different skills than speaking in conversation students must be aware of the differences between the two this may be challenging for early writers who have not yet made that distinction using speech recognition technology may make it more difficult for younger students to begin differentiation between writing and speaking thus it is critical that use of speech recognition technology be paired with instruction on writing strategies brainstorming rafting and organisation and other key elements involved in using speech recognition programs is the need for error correction and monitoring of Miss recognise words newer programs never make a spelling mistake and then proved when users correctness recognise words so students must be alert for errors that go unrecognised by the program EG incorrect word choices or words misunderstood...

by the software while this process can be taxing for struggling readers a program that is also capable of reading text back to the user can help them with editing and revising and have their implementation challenge is that the software requires a good deal of memory and must be saved on a single server folder these voice files improving accuracy with use so it is important that students work in their own saved file this means that this assistive technology is not voice portable schools have overcome this Challenge by assigning students laptops with the software installed or storing files on a network server that can be accessed from anywhere on campus as with any assistive technology solution finding funding for speech recognition Solutions may also present A Challenge for schools the first step in obtaining any assistive technology for your students is to conduct a thorough assessment to determine what would be best improving student successful speech recognition speech recognition isn't perfect and...

may not be the best choice for all students with disabilities but it does have some significant benefits for certain students that make it worth the time investment if speech recognition tools are right for your student here are several tips for improving student success be sure that your computer has a good quality microphone and sound card and meets the minimum memory capacity and processing speed requirements listed for the software that you purchase many speech recognition companies will recommend specific microphones that have been shown to work well with their software for students with LD using speech recognition explicit instruction in reading skills on a logical awareness writing strategies and organisational strategies may be helpful for students who struggle with reading working on software that includes a read back or speech to text feature can help with error correction and

editing the future of speech recognition more research is still needed on the efficacy of speech recognition for children with LD and other types of disabilities however the technology is continuing to move forward and address many of the problems encountered before...