

Exam performance and User Satisfaction after Optimizing Learner Accessibility: Acceptability, Feasibility and Efficacy of ASL and Text-to-Speech in Online Trainings



Sarah Rulnick, MPH; Benjamin Amankwata, MS; Viet Do, MS; Tom Butero, LICSW; John Rochford, MS
University of Massachusetts Medical School, Eunice K. Shriver Center, CANS Training Program



Introduction

The CANS Training program added two features, American Sign Language (ASL) and Text-to-Speech (TTS) to help clinicians of all abilities use our online training. The Mass CANS training is designed for clinicians who provide behavioral health assessments to MassHealth covered children and youth.



The abilities, learning styles, and primary language spoken among the CANS training users is quite diverse. The Program has trained and certified over 39,000 behavioral health providers throughout Massachusetts in the use of the Child and Adolescent Needs and Strengths (CANS) tool.

Methods

Videos throughout the CANS training include American Sign Language (ASL) insets or closed captions. The training platform allows users to toggle between videos, with or without ASL insets. Learners may also use ASL and closed captions simultaneously as they view the videos.

A Text-to-Speech (TTS) product called ReadSpeaker is offered throughout the training and exam. ReadSpeaker reads the text to the user and simultaneously highlights that same text as it is read aloud. This feature assists the blind, those with learning disabilities, and English language learners.

We used the following criteria to assess use and performance of ASL and TTS:

1. Users had an exam score before ASL or TTS use.
2. Participants used ASL at least 2 times or TTS 10 or more times.
3. Users took an exam after their use of ASL or TTS.

User satisfaction was derived from analysis of anonymous satisfaction surveys in which ASL or TTS features were mentioned.



Please complete the exercise. After choosing your answer, please go to the next slide for feedback. If your answer did not agree with ours, consider doing the exercise that follows this one to check your understanding. If you disagree with our answers, and want to tell us why, please click on the feedback button. When you are done, go on to the next slide of the training.

Results

ASL

- N = 24 met the criteria.
- 14 (58%) showed improved performance.
- 10 (42%) had no change or did worse.
- We found a subset of users who used ASL as their primary means of consuming the content. ASL was preferred to Closed Captions (CC).
- Of those who used the ASL feature 2 or more times in the training videos, there was no significant change in exam score.

Text-To-Talk

- N=30 met the criteria.
- 28 (93%) showed improved performance on the exam.
- 2 (7%) had no change or did worse.
- There was a correlation between TTS use and passing the exam.
- TTS users' points went up on average of 20 points.
- Many users tried the feature and results show that even with a small amount of TTS use, scores went up.

Users of both technologies reported greater user satisfaction with accessible technology at their fingertips and indicated that the accessibility features assisted in their learning.

Conclusions

- Increased TTS usage correlates to an improved score while ASL usage didn't significantly impact ASL users' scores.
- User feedback identified the need for ASL on both videos and slides throughout the training and exam. Until ASL is added to the slides, we cannot truly compare efficacy between ASL and TTS.
- We recommend TTS be provided for all on-line learning systems. The technology is inexpensive and adds greatly to user satisfaction and performance.
- We recommend the addition of ASL to slides as well as videos. Because many deaf users prefer ASL to CC, we encourage that ASL be built into the initial cost of projects.

Acknowledgements

Funding for this project came from the Commonwealth of Massachusetts, EOHHS, Office of Behavioral Health, Children's Behavioral Health Initiative.

Special thanks to Lena Riccardi, CANS Project Coordinator for her support of staff and users.