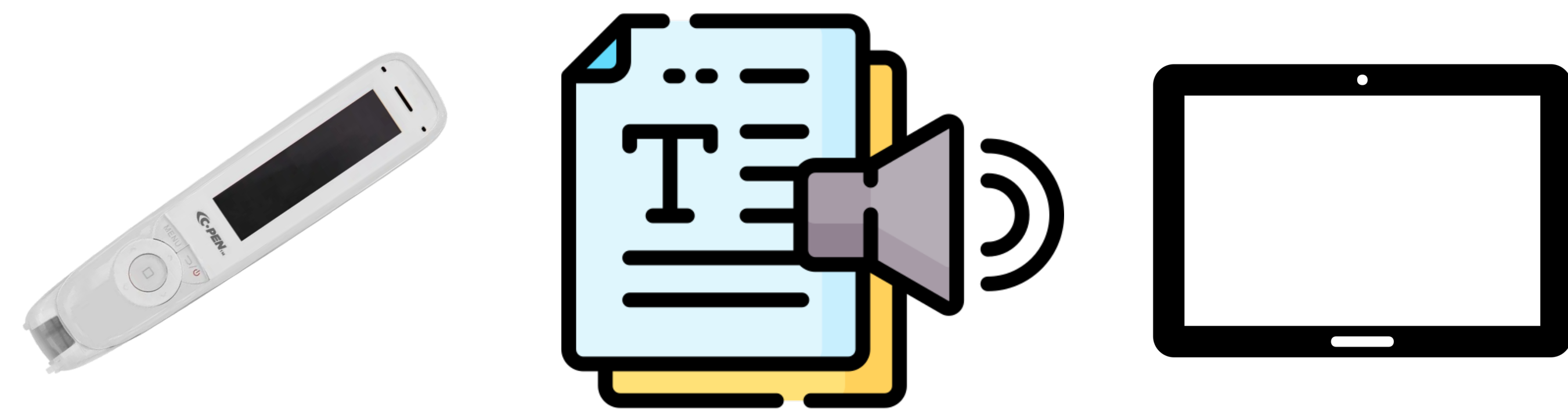


Nicholas Collazos & Landon Heller

I. Background

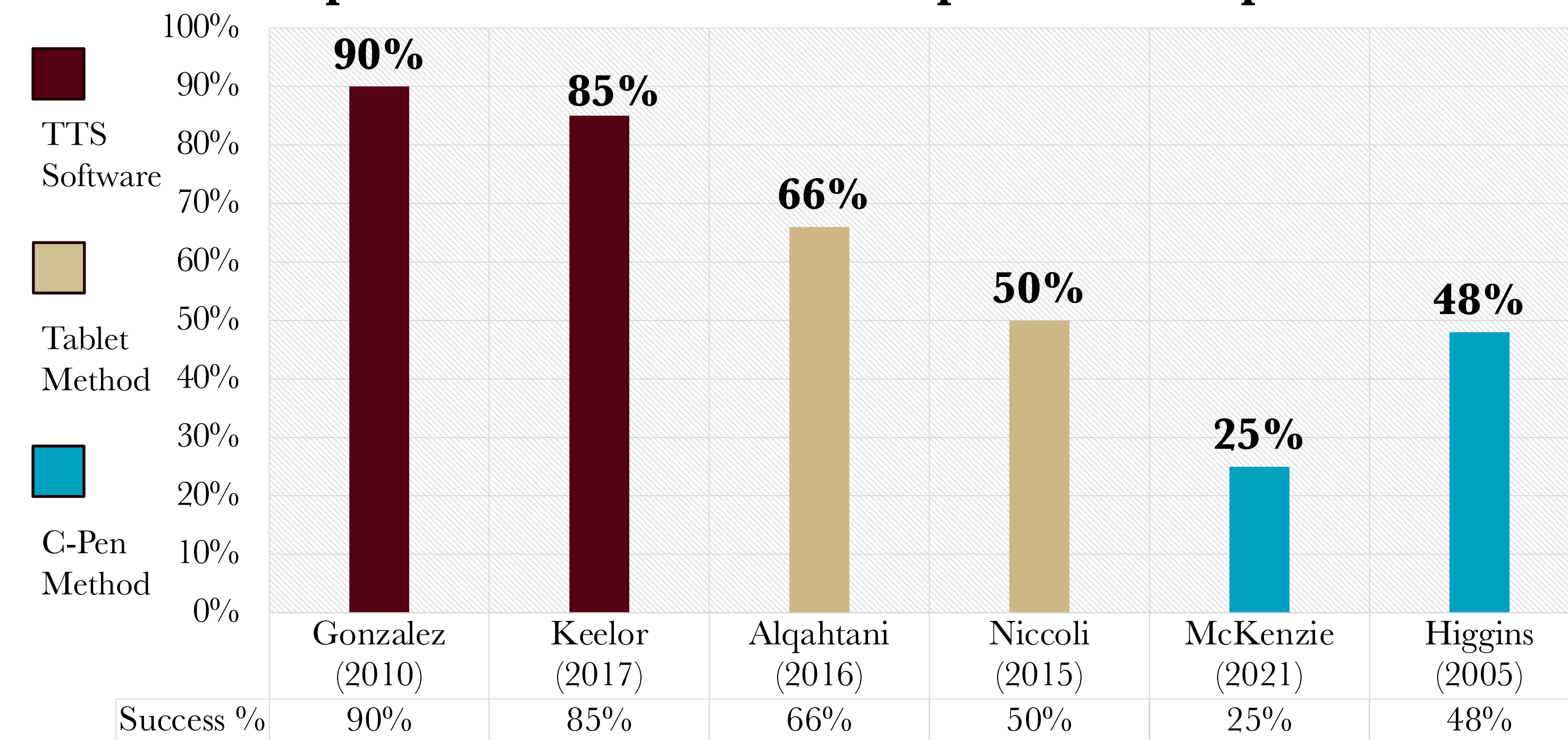
- Reading disabilities create significant barriers to understanding curriculum and cause academic achievement gaps.
- While assistive technology is increasingly common, the comparative effectiveness of specific tools remains under-explored.
- This study evaluates text-to-speech and read-aloud tools specifically for improving reading comprehension.
- The presentation provides evidence-based recommendations for educators on which technologies to implement in the classroom.



II. Methods

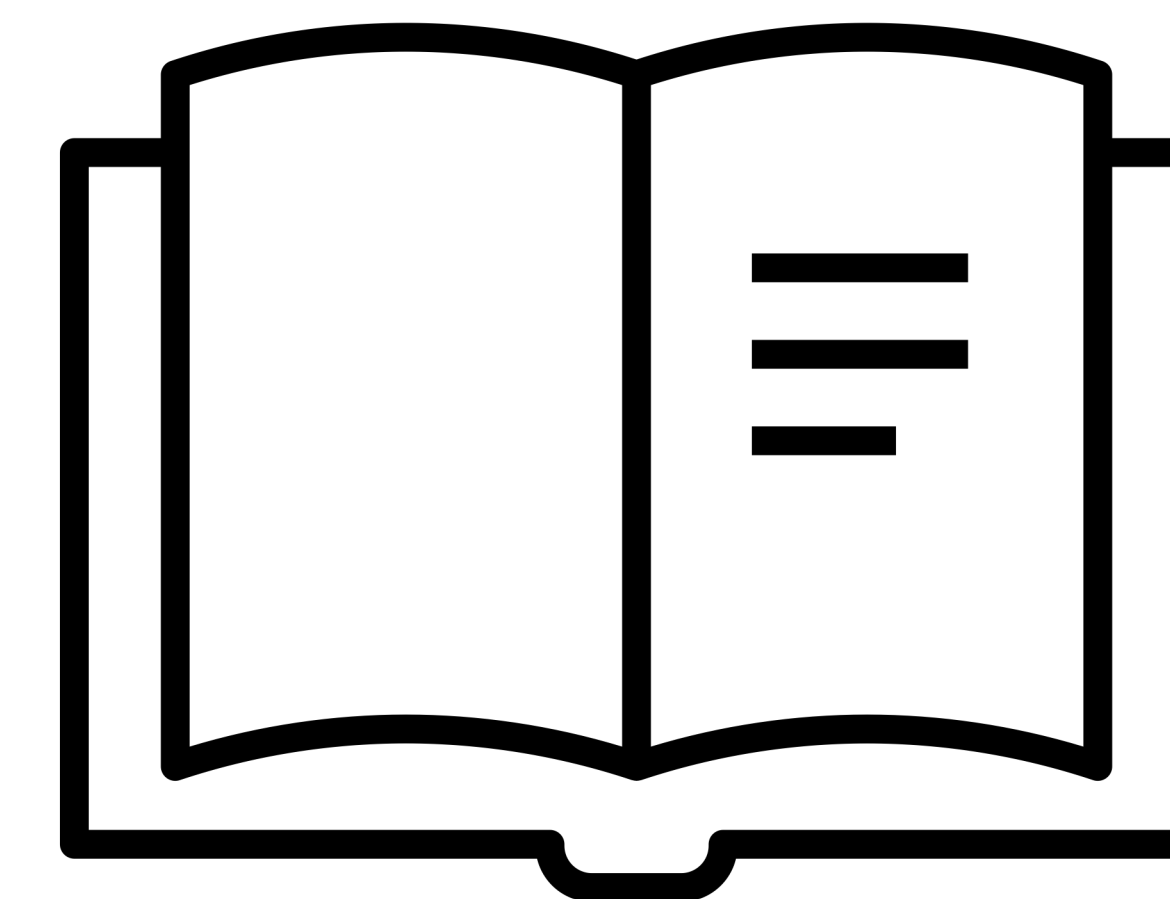
- Conducted a meta-analysis using Covidence as the primary tool.
- Extracted data from scholarly works, including researcher names, countries of origin, and study methods.
- Analyzed variables such as participant age groups, testing types employed, and study results.
- Evaluated specific testing methods, including assistive tablets, text-to-speech digital software, and C-pen readers.
- Determined the most effective methods for classroom implementation by identifying studies with the highest student success rates.

Impact of TTS Methods on Comprehension Improvements



III. Results

It was found after comparing the results of the various studies that the standard text-to-speech implemented software had the most effective results in aiding students with reading disorders. This can be seen in the graph above, where Gonzalez (2010) and Keelor (2017) demonstrated the greatest average success between their two studies (87.5%). This is higher than the average of the two tablet studies (58%) and C-Pen studies. (36.5%).

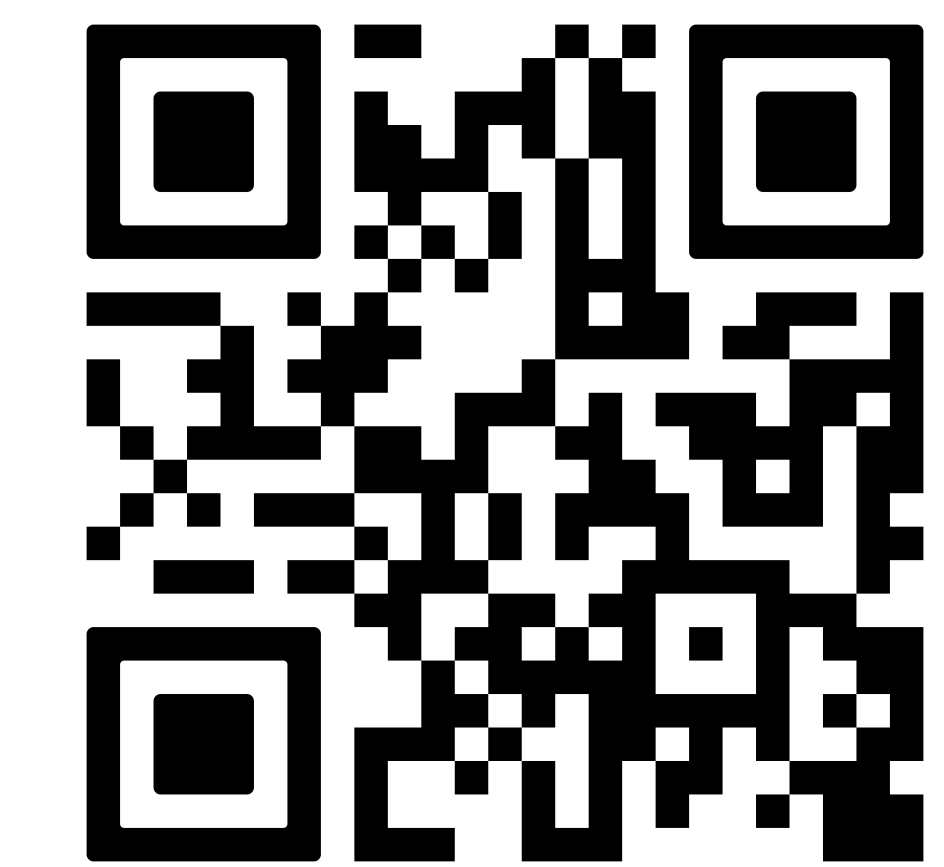


IV. Takeaway

As for what is recommended from this study for educators to implement, the best method would be a text-to-speech software due to the higher success compared to the other methods analyzed.

This study was mostly focused on analyzing research papers that centered around elementary-level readers (third or fourth grade) and thus cannot apply to most educators in higher level classrooms. For future research, a less specific and elementary population sample is recommended as this increases reliability of results.

References:



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