

STUDENT SELF-IMPLEMENTED INCREMENTAL REHEARSAL: FASTFLASH

SUMMARY

FastFlash will provide an Evidence-Based Intervention to students without the need of an intervention administrator. FastFlash is specifically designed to serve students with cognitive and sensory impairments. Research supports that students with a special education category of Specific Learning Disability (SLD) or Intellectual Disability (ID) benefit from Evidence Based Interventions implemented regularly. Often, teachers are held responsible for implementing interventions, collecting data, as well as educating the general education classroom. This is an extremely difficult and at times, impossible job to complete. The purpose of FastFlash is to provide students with the Evidence Based Intervention, Incremental Rehearsal, through an interactive application. Many Evidence Based Interventions have simple instructions; however, time and staff availability are limitations from students receiving invention. FastFlash will implement the intervention and progress monitor through data collection. Progress monitoring will be conducted by collecting student performance data and then graphing the data onto a grid. Teachers will no longer have to a paper chart for every student to record data. Instead, every student will have a digital chart that will be accessed by the teacher and other support staff.

INTERDISCIPLINARY ENGAGEMENT

The idea for FastFlash was created through combining 2 different areas of research which include, Evidence Based Interventions and best practices for technology. Evidence Based Interventions, specifically Incremental Rehearsal, can be used to build early reading skills for students with disabilities. One study measured letter sound fluency in kindergarten students using Incremental Rehearsal. The study found that Incremental Rehearsal was successful in improving student letter-sound knowledge when used on a computer (Volpe et al. 2011). Technology in the schools is a controversial topic, however technology

is constantly reforming the school setting. Technology has the power to benefit students and educational staff when used with best practice. Best practice with technology in the schools consists of protecting sensitive information with security measures such as passwords and encryption (Harrison & Thomas, 2011). FastFlash will use a student identification numbers as usernames so that performance is confidential. In addition, any appropriate encryption and data security will be practiced.

BACKGROUND

There is a need for early reading interventions to be implemented more frequently and consistently in Elementary Schools. It is difficult for educators to implement several interventions, collect data, and tend to the needs of the general education classroom. Incremental Rehearsal is a simple Evidence Based Intervention that many teachers and support staff are currently familiar with. As a result of difficulty observed in many school settings, the idea for FastFlash was created with the purpose to allow students to implement their own interventions was created.

METHODS/APPROACH/SOLUTIONS CONSIDERED

FastFlash is intended to be used with young school age students. As a result, FastFlash must be easy to use and simple in design. The buttons on FastFlash will use common symbols to describe their function. At first, it was considered that FastFlash will provide the sound of a letter to a student and then the student will repeat the letter and move on to the next letter. However, that will make it possible for a student to move quickly through the intervention without providing correct responses. As a result, the nature of FastFlash interaction must be reciprocal. FastFlash will listen to a student say the name or sound of a letter, and then determine if the student is correct. FastFlash will utilize the talk-to-text feature that is currently located on all devices.

DESCRIPTION OF FINAL APPROACH AND DESIGN

Students will have to initially be taught how to interact with FastFlash, however it is realistic that the students will learn how to navigate FastFlash after 1 lesson. FastFlash will include a baseline portion of instruction. This means that the students will undergo a period of time where they are introduced to the targeted letter names or sounds. FastFlash will gather information about student skill level before the intervention is fully implemented. Baseline data will be collected through a process that requires a student to touch the sound button and listen to FastFlash say the name or sound of a letter. Next, the student will touch the listen button and say the name or sound of the letter. The final step consists of FastFlash determining if the student's response was correct. If the student is correct, the screen will change to a new letter and the process will begin again. If the student is incorrect, FastFlash will say the name or sound of the letter again. After pausing so that the student will associate the sound with the correct letter, the screen will change to a new letter or sound and record the previous incorrect response. After several sessions of baseline data are collected, FastFlash will expose the student to a letter without initially providing the name or sound. The students will have to recall the correct letter name or sound, and FastFlash will record student performance. Additionally, students will have a 5-second time limit to say the correct letter name or sound. The time limit provides a focus on letter name or sound fluency, and it ensures that the student is moving through the intervention at an appropriate pace.

OUTCOME

The outcome of creating FastFlash is that more students will receive Evidence Based Interventions more frequently. FastFlash also has the ability to be downloaded and used at home. Many families want to provide support to student education, but many families do not know how. FastFlash will allow students to receive supplemental intervention in the home as well as in school.

COST

FastFlash will be low cost and the benefits from creating it outweigh the costs for creation. An estimate of the cost to create FastFlash was determined using <https://www.clavax.com/>. Clavax is a website that specializes in the estimation of application development cost. FastFlash will be considered a basic application, and no additional technology aside from a device will be needed for use. FastFlash will be created for both iPhone and Android users. On a technical level, FastFlash will fall into the category of Simple Interface. Simple Interface means that the primary function of FastFlash will be to follow commands or complete tasks. FastFlash is currently in the idea phase of production, which means that no coding has been completed at this time. Users of FastFlash will have a personal sign-in, such as a student identification number, but FastFlash will not connect to email or any other social media. At this time, FastFlash is not multilingual because FastFlash focuses on early reading intervention in English. There will be a website associated with FastFlash so that student data could be easily assessed, compared, and presented. Using all of the information about the needs of FastFlash, Clavax estimated that FastFlash will cost approximately \$13,750 - \$18,750.

SIGNIFICANCE

Frequently, students do not receive adequate intervention as a result of limitations in the educational system. FastFlash aims to target a common problem observed in many schools by providing students the technology to be self-sufficient. FastFlash would give educators the ability to implement Incremental Rehearsal to different students with different needs at the same time. This would make practice more efficient, and more likely to occur throughout the school day. Many schools already incorporate laptop, Chromebook, or computer time in the day schedule. FastFlash would allow students with cognitive and sensory impairments to self-locate a device and implement their own intervention during a regularly scheduled school day. Not only would students be able to implement their own intervention, but data

collection and storage would occur automatically and with best practice. Overall, FastFlash aims to support teachers as well as the needs of different types of learners through providing a solution to a common problem.

References

- In Harrison, P. L., In Thomas, A., & National Association of School Psychologists,. (2014). *Best practices in school psychology*.
- Volpe, R. J., Burns, M. K., Dubois, M., & Zaslofsky, A. F. (2011). Computer-assisted tutoring: Teaching letter sounds to kindergarten students using incremental rehearsal. *Psychology in the Schools*, 48(4), 332-342. doi:10.1002/pits.20557