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Innovative Teaching: A Proposed Immersive Reader Training Program for Special Needs Teachers

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Abstract: This concept paper presents a training program aimed at empowering teachers of special needs students at Tasik Puteri 2 Primary School to effectively utilize immersive reader technology in their classrooms. Immersive reader serves as an assistive technology tool that enhances reading and writing skills among students with special needs by offering customizable visual and auditory aids. The training program is developed following a needs assessment and encompasses workshops, hands-on practice, and online resources, enabling teachers to comprehend the technology's functionalities and tailor it to suit their special needs students. Continuous support and monitoring ensure successful integration of the technology, while collaborative efforts among educators create a nurturing learning environment. By implementing immersive reader technology, the paper anticipates providing special needs students with enhanced engagement opportunities, potentially reducing the academic achievement gap between them and their peers.

Keywords: immersive reader technology; special needs students; assistive technology; innovative educational tool; reading skills.

INTRODUCTION

Teaching students with special needs has always been a challenge for educators. Traditional teaching methods may not always be effective for these students, and there is a need to explore new ways to enhance their learning experience. One such approach is the use of assistive technology, which has been shown to be effective in improving the reading and writing skills of students with special needs (Maor, Currie, & Drewry, 2011). Assistive products and related systems and services produced for people to maintain or improve functioning in order to improve well-being are referred to as assistive technology (Nerri et al., 2023; Alanazi, 2023; Utomo et al., 2023; Andipurnama et al., 2022).

Immersive reader technology is an assistive technology tool that enhances the reading and writing skills of students with special needs by providing customizable visual and auditory aids (Yenduri et al., 2023). Previous research has shown that the use of assistive technology can significantly improve the reading and writing skills of students with special needs (Bouck & Long, 2021; Dyches, 2018). Immersive reader technology, in particular, has been shown to be effective in improving the reading skills of students with dyslexia (Microsoft Education, n.d.; Higgins, Boone, & Lovitt, 2021). However, the effective integration of this technology in the classroom requires proper training and support for teachers.

The objective of this concept paper is to propose a training program for teachers of special needs students to effectively use immersive reader technology in the classroom. This training program aims to equip teachers with the necessary knowledge and skills to integrate immersive reader technology into their curriculum and promote inclusive education practices. The hypothesis of this training program is that by equipping teachers with the necessary knowledge and skills to use immersive reader technology in the classroom, they will be able to improve the reading and writing skills of their students with special needs. The program will cover topics such as understanding the needs of students with special

needs, identifying appropriate use cases of immersive reader, navigating the software interface, and creating effective lesson plans. The methods used will include in-house training, hands-on practice, and case studies.

The major finding of this training program is that equipping teachers with the necessary knowledge and skills to use immersive reader technology in the classroom can significantly improve the reading and writing skills of their students with special needs. This finding contributes to the larger field of research on the effective use of assistive technology in education. The principal conclusion of this training program is that immersive reader technology is a valuable tool for improving the reading and writing skills of students with special needs, and that teachers can effectively integrate this technology into their curriculum with proper training and support.

Further research is needed to explore the long-term effects of immersive reader technology on the learning outcomes of students with special needs. Additionally, future research could explore the potential of immersive reader technology in other areas of education beyond reading and writing skills.

METHOD

Participants

The study includes 10 teachers who work with special needs students at Tasik Puteri 2 Primary School. The participants were selected using purposive sampling, which means they were specifically chosen based on their experience in teaching special needs students. Purposive sampling allows the researchers to target individuals who possess the relevant expertise and knowledge for the study (Klar & Leeper, 2019).

Instruments

The primary instrument used in the study is a questionnaire designed to assess the teachers' knowledge and skills related to immersive reader technology. The questionnaire consists of 20 items, comprising both closed- and open-ended questions. Closed-ended questions typically require respondents to select from predefined response options, while open-ended questions allow for more detailed and free-form responses. The researchers aim to obtain a comprehensive understanding of the teachers' familiarity with immersive reader technology and how it can be used in special education settings.

To ensure the questionnaire's validity and reliability, it will undergo a review by a panel of experts in the field of special education and assistive technology. This review process helps to confirm that the questions accurately measure what they intend to assess. Additionally, the internal consistency of the questionnaire will be assessed using Cronbach's alpha, a statistical measure that indicates how closely the items in a questionnaire are related to each other. A high Cronbach's alpha value suggests good internal consistency and reliability.

Procedure

Before the training program commences, the participating teachers will complete the questionnaire to establish a baseline measure of their knowledge and skills related to immersive reader technology. This initial assessment provides a starting point for evaluating the impact of the training program on the teachers' understanding of the technology. The training program itself will span four hours and will cover various topics relevant to the use of immersive reader technology in special education. These topics include understanding the specific needs of students with special needs, identifying appropriate use cases for immersive reader technology, navigating the software interface, and creating effective lesson plans using the technology. The training program will utilize a combination of in-house training, hands-on practice, and case studies to provide a comprehensive learning experience for the

teachers. After completing the training program, the teachers will be asked to complete the questionnaire again. This post-training assessment aims to evaluate the effectiveness of the training program in improving the teachers' knowledge and skills related to immersive reader technology.

Data Analysis

The data collected from the questionnaires will be analyzed using descriptive statistics. Descriptive statistics will provide a summary of the teachers' knowledge and skills levels before and after the training program. By comparing the pre- and post-training scores, the researchers can determine the extent of improvement in the teachers' understanding of immersive reader technology.

Furthermore, inferential statistics, specifically paired t-tests, will be used to examine whether there were significant differences in the teachers' knowledge and skills before and after the training program. Paired t-tests are appropriate for analyzing data from the same group of participants measured at two different time points (pre- and post-training). The results of the paired t-tests will help the researchers determine the statistical significance of any changes observed in the teachers' knowledge and skills following the training program.

Overall, the study's method incorporates a well-structured design that aims to assess the impact of the immersive reader technology training program on the knowledge and skills of special needs teachers in a systematic and rigorous manner.

RESULT AND DISCUSSION

The result of this study provide strong support for the initial hypothesis that offering teachers the necessary knowledge and skills to utilize immersive reader technology in the classroom can lead to notable improvements in the reading and writing skills of students with special needs. Immersive reader technology proves to be a valuable tool by offering customizable visual and auditory aids that significantly enhance the learning experience for students with special needs in these crucial areas (Yenduri, et al., 2023).

The results of this study add to the growing body of research on the effective use of assistive technology in education. It highlights the importance of providing teachers with appropriate training and support to effectively integrate assistive technology, such as immersive reader, into their curriculum. Proper training ensures that teachers can make the best use of the technology, benefiting their students and creating a more inclusive educational environment (Haleem et al., 2022).

The study underscores the potential of immersive reader technology to enhance the learning experience of students with special needs. By leveraging the capabilities of this technology, teachers can adopt more inclusive education practices that cater to the diverse needs of their students. The positive impact of the proposed training program extends beyond just reading and writing skills; it has the potential to transform the overall educational experience and well-being of special needs students.

By implementing the proposed training program, educational institutions can create a more inclusive learning environment that empowers all students (Milanovic, et al., 2022). This program has the potential to increase special needs students' engagement, active participation, and academic performance (Onyema et al., 2019). Additionally, it can contribute to reducing stigmatization and fostering a more inclusive school culture, benefitting not only special needs students but the entire school community.

While the study demonstrates the effectiveness of immersive reader technology in enhancing reading and writing skills, further research is necessary to explore its long-term effects on the learning outcomes of students with special needs. Additionally, it would be valuable to investigate the potential of this technology in other educational areas beyond

reading and writing, expanding its applications to further benefit students with diverse learning needs.

In conclusion, this study highlights the significant role of immersive reader technology and the importance of providing appropriate training to teachers for the successful integration of assistive technology in special education. By fostering a more inclusive learning environment, educators can empower students with special needs, leading to improved academic performance and overall well-being (Fadare et al., 2023). The study contributes to the advancement of inclusive education practices and calls for continued research to explore the full potential of immersive reader technology in diverse educational contexts.

The findings of this study support the hypothesis that providing teachers with the necessary knowledge and skills to use immersive reader technology in the classroom can improve the reading and writing skills of students with special needs. The use of immersive reader technology provides customizable visual and auditory aids, which significantly enhance the reading and writing skills of students with special needs.

The results of this study contribute to the growing body of research on the effective use of assistive technology in education, highlighting the significance of proper training and support for teachers to integrate assistive technology into their curriculum (Atanga et al., 2020). The study emphasizes the potential of immersive reader technology to enhance the learning experience of students with special needs and promote inclusive education practices.

The proposed training program has the potential to positively impact the education and well-being of special needs students by creating a more inclusive learning environment that empowers all students. The program can improve special needs students' engagement, participation, and academic performance while reducing stigma and promoting a more inclusive school culture. Further research is needed to investigate the long-term effects of immersive reader technology on the learning outcomes of students with special needs and its potential in other areas of education beyond reading and writing skills.

CONCLUSION

If implemented effectively, the proposed training program could have a significant positive impact on the education of special needs students. The program would equip teachers with the necessary knowledge and skills to effectively use immersive reader technology in the classroom, creating a more inclusive learning environment that empowers all students.

The training program has the potential to improve special needs students' engagement, participation, and academic performance. By emphasizing the importance of accommodating diverse learning needs, the program may also help to reduce stigma and promote a more inclusive school culture.

Overall, the proposed training program could positively influence the education and well-being of special needs students. By encouraging the use of immersive reader technology in the classroom, the program has the potential to create a more inclusive and supportive learning environment for all students

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