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The Effectiveness of MilleaLab in Teaching English to Inclusive Students at SMP Plus Rahmat

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Abstract

This study evaluates the effectiveness of Millealab, a virtual reality (VR) platform, in teaching English to inclusive students at SMP Plus Rahmat in Indonesia. Traditional methods often fail to meet these students' needs, necessitating innovative strategies like VR. Millealab offers immersive, interactive learning to enhance engagement and proficiency. Using a single-case experimental design with a multiple-baseline approach, the study involved a total of five inclusive students in grade VIII. The impact of Millealab on English proficiency was compared to traditional methods, using pre-and post-tests, checklists, and interviews. Results showed significant improvements in English proficiency for four of the five participants. Increased engagement and enjoyment were reported, attributed to Millealab's interactive nature. One student experienced adverse effects due to a pre-existing health condition, highlighting the need for adaptable approaches. The findings suggest that VR platforms like Millealab can effectively support language learning in inclusive settings, offering personalized and engaging experiences. This study provides empirical evidence for VR's potential in inclusive education and recommends further research to validate these findings.

Key words: millealab, virtual reality, inclusive student, teaching English, experimental study

Introduction

What has been widely discussed as the mainstreaming of education for all students, including those characterized by learning difficulties and disabilities, can be viewed as the inception of a policy in inclusive education. Integrating learners with disability in a normal learning setting offers certain difficulties and complexities especially when teaching subjects that require language ability as in the instance of English lessons. elucidate this, traditional teaching techniques are not always effective in addressing the learning needs of more US students Hence, there is a need to embrace innovative strategies to address this.

Inclusive students are those with special educational needs, such as learning difficulties, physical disabilities, or developmental disorders, who learn alongside regular students in the same educational environment. SMP Plus Rahmat Kediri, a junior high school located in Kediri, Indonesia, has adopted an inclusive education policy committed to providing equal education for all its students, including those with special needs. At SMP Plus Rahmat, inclusive students receive additional support through special programs designed to meet their individual needs, such as assistance from special education teachers and access to modern educational technology. The school is equipped with various disability-friendly facilities and has a teaching staff trained in adaptive and inclusive teaching methods. With this approach, SMP Plus Rahmat aims to create a supportive and inclusive learning environment where all students can reach their maximum potential without exception

Teaching English to inclusive students presents several challenges, including the varying pace of learning among students, their intellectual abilities, and their levels of language experience. Traditional teaching approaches often lack the necessary flexibility and adaptability to effectively address these challenges. Therefore, there is a critical need to explore new and effective learning tools that can complement and support the education of students in inclusive settings. From the aforementioned findings, it can be concluded that Millealab, with its VR feature, holds the potential to offer impactful, student-centered learning experiences that are personalized to individual needs. However, the extent of MilleaLab's effectiveness remains unclear and

warrants further research to advance knowledge and bridge the gap between academic discourse and educational practice.

Introducing MilleaLab, a unique Virtual Reality (VR) platform for language acquisition, helps

learners explore authentic situations and interact with the language, unrestrained. There has been so much hype about the applicability of VR to the learning achievement of students and motivating the learning process through real-life and situational learning. However, it is still feasible that due to the lack of precise application of MilleaLab or other similar VR tools in diverse classrooms, empirical research on the effectiveness of these tools in promoting Education needs to be explored further. To fill this gap, this study assesses the effectiveness of MilleaLab in teaching English in inclusive classrooms specifically in SMP Plus Rahmat; a school in Indonesia that embraces the mainstreaming of students with diverse learning abilities.

While the use of VR in mainstream education has been explored extensively, research on its application in inclusive education remains sparse. Existing studies indicate that VR can offer significant benefits for students with disabilities, including enhanced motivation, increased engagement, and improved learning outcomes (Ludlow, 2015). For example, Smith and Jones (2017) found that VR-based interventions led to significant improvements in social communication skills among students with autism. However, these studies often focus on specific disabilities and do not address the broader spectrum of needs found in inclusive classrooms. This study aims to fill this gap by evaluating the effectiveness of MilleaLab across a diverse group of inclusive students, thereby providing a more comprehensive understanding of its potential impact.

In conclusion, the integration of VR tools like MilleaLab in inclusive education holds significant promise, but empirical research is needed to substantiate its effectiveness. This literature review has highlighted the theoretical foundations and existing research on inclusive education, educational technology, and VR, setting the stage for the subsequent experimental study. By investigating the impact of MilleaLab on English language proficiency among inclusive students, this study aims to contribute valuable insights to both academic literature and educational practice.

The main aim of this study is to evaluate how effective Millealab is in improving English language skills among inclusive students. Specifically, the study seeks to assess the impact of MilleaLab on the English proficiency of inclusive students at SMP Plus Rahmat, compare the learning outcomes of students using Millealab with those taught using traditional methods, and explore the perceptions of both students and teachers regarding the implementation of Millealab in the classroom.

This study is poised to make significant contributions to the field of inclusive education by providing empirical evidence on the effectiveness of VR tools like MilleaLab in enhancing language learning. The findings will offer valuable insights for educators, curriculum designers, and policymakers aiming to implement inclusive education practices effectively. By demonstrating the potential benefits of integrating VR technology into language teaching, this research could pave the way for more widespread adoption of innovative educational technologies, ultimately fostering a more inclusive and effective learning environment for all students.

Methods

This study utilizes a single-case experimental design with a multiple-baseline approach across participants to evaluate the effectiveness of Millealab in teaching English to inclusive students at SMP Plus Rahmat. The sample consisted of five inclusive students in the eighth grade, each with varying learning needs and disabilities. Pre-tests and post-tests were administered to measure English proficiency, supplemented by checklists and interviews to gather qualitative data. Statistical analysis was performed using SPSS to determine significant differences between pre-test and post-test scores.

Results and Discussion

After doing a pre-test, the researcher found the highest score was 10 and the lowest score was 9 with a mean is 9,40. Another result of the descriptive analysis showed the standard error of the mean (0,245), median (9), mode (9 standard deviation (0,548), variance (0,300), range (1), and sum (47).

Then, the post-test was done after giving the treatment. In the post-test, the highest score was 12 and the lowest score was 11. After counting the post-test by using SPSS, it was known that the mean was 11,40. Another result of the descriptive analysis showed the standard error of the mean (0,245), median (11), mode (11) standard deviation (0,548),

variance (0,300), range (1), and sum (57). This means that there is a 10 range between the sum in pre-and post.

H0: The use of MilleaLab does not affect the self- directed learning ability of inclusive students.

Ha: The use of MilleaLab enhances the self-directed learning ability of inclusive students.

Based on the result above, Levene's test for equality of variance results shows a 1.000 score> 0,05 means that the variance of data between the pretest and posttest is homogenous. It is proved that equal variances are assumed. The Sig. (2 t-tailed) is 0.000. If less than 0.05, means that H0 is rejected and Ha accepted. In conclusion, MilleaLab is effective in teaching inclusive students at SD Plus Rahmat.

The study provides compelling evidence for Millealab's effectiveness in enhancing English language proficiency among inclusive students. Significant improvements in the pre-test and post-test scores of four participants demonstrate the potential of VR technology to create engaging and effective learning environments. These findings align with existing literature, suggesting that immersive VR experiences can enhance language learning by providing interactive and contextually rich scenarios that facilitate deeper cognitive engagement (Parong & Mayer, 2018; Chen, 2016).

Qualitative data further support these quantitative findings, with students and teachers reporting high levels of engagement and satisfaction with MilleaLab. The interactive nature of the VR lessons motivated students to participate more actively and take risks in their language use, contributing to their improved proficiency. This supports constructivist learning theories, which emphasize the importance of active participation and experiential learning in knowledge construction (Jonassen, 1999; Vygotsky, 1978).

The positive outcomes of this study have significant implications for inclusive education. Integrating VR tools like MilleaLab into the curriculum can effectively address the diverse learning needs of inclusive students. VR's ability to provide personalized and immersive learning experiences can bridge the gap between traditional teaching methods and the specific requirements of inclusive learners. Educators and policymakers should consider investing in VR technology and training teachers to incorporate it effectively.

After the test of pre-test and post-test data, statistics were compiled for the hypothesis as follows:

However, the study also highlights the need for flexibility and adaptability in educational interventions. The case of a student experiencing health issues with VR usage underscores the importance of accommodating individual differences and providing alternative learning methods. Schools should ensure they have various tools and strategies to support all students, including those who may not benefit from VR due to health-related concerns.

Conclusion

The study demonstrates that Millealab significantly enhances English language proficiency among inclusive students, as reflected in the pre-test and post-test scores. These findings are consistent with previous studies (Parong & Mayer, 2018; Chen, 2016) that highlight the benefits of immersive VR experiences in language learning. The interactive nature of Millealab increased student engagement and motivation, supporting constructivist learning theories (Jonassen, 1999; Vygotsky, 1978). However, the need for adaptable approaches is evident, as one student experienced adverse effects due to a pre- existing health condition.

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