

## Virtual Reality (VR) and its Acceptance among English Language Teachers

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#### **Abstract**

Without a doubt, incorporating virtual reality (VR) into a comprehensive educational framework would offer an immersive and interactive learning environment. Nevertheless, the extensive implementation of this technology is still ongoing. To enhance comprehension of these areas and assist teachers in effectively utilising these technologies, it is significant to further investigate the distinctive features and desired benefits. However, the level of virtual reality (VR) adoption specifically in Sarawak, remains uncertain despite the significant potential offered by VR. This study aims to investigate the level of acceptance among English Language teachers towards virtual reality (VR). The study utilised a quantitative research method, specifically employing a cross-sectional survey methodology. The findings revealed that technology plays a vital role in the daily practices among English Language teachers in Sarawak. Teachers are more inclined to adopt virtual reality (VR) in English as a Second Language (ESL) classrooms if they are equipped with a greater level of technological proficiency and skill.

**Keywords:** Virtual Reality (VR), English Language Teachers, English as a Second Language (ESL), Teachers' Acceptance, Interactive Learning Environment

#### Introduction

In the 21st century, learning is characterised by the learner's ability to acquire both interpersonal and technological expertise (Sari Famularsih, 2020). Currently, there is a global demand for a more competitive human workforce (Yunus & Arshad, 2015). Technology serves multiple roles in education, such as contributing as a medium for learning and offering educational materials (Khan et al., 2022). For instance, learners are exploring the educational resources they obtained from diverse platforms such as internet sites, newspapers and magazines, and YouTube (Tira Nur, 2020). The incorporation of Information and Communication Technology (ICT) in education has introduced greater diversity in the methods of teaching and learning (Yunus et al., 2014). Moreover, innovation in technology have a substantial influence on the educational process, specifically in the context of learning in the 21st century (Tseng et al., 2019). Alharbi (2020) defined technological knowledge as the combination of comprehending the basic principles of technology and the capacity to

efficiently utilise technology for enhancing the educational experience for learners. Hence, there exists a mutually dependent connection between the advancement of technology and the acquisition of knowledge by learners (Kacetl & Klímová, 2019).

Amidst the Coronavirus outbreak, policy officials worldwide are formulating new laws and measures to ensure the uninterrupted provision of education (Santhanasamy & Yunus, 2022). The utilisation of virtual reality (VR) technology for instructional purposes in Malaysian schools has recently been debated. The sudden shift to a completely digital learning environment has been a significant challenge for both teachers and students (Chu & Li, 2022). When it comes of acquiring 21st century skills, the relevance of learning English goes beyond merely imparting understanding and skills to students. Syafryadin (2021) suggested that incorporating technology into English Language instruction has the potential to enhance students' motivation to learn along with improving their academic performance. Multiple studies have demonstrated that virtual reality (VR) has significantly improved English as a Second Language (ESL) proficiency (Jayes, 2022). Empirical data suggested that virtual reality (VR) positively impacts one's capacity to comprehend and analyse written material (Yunus et al. 2020). A study conducted by Durnali et al (2019) showed that incorporating virtual reality (VR) into English lessons had positive effects on students' academic performance.

English is taught as a second language in all Malaysian national schools, making it a highly tough task to teach English in these schools (Yunus et al., 2013). The primary objective of this research is to assess the level to which English Language teachers accept virtual reality (VR) and how their prior experiences with technology might impact this adoption. The unique blending of Malaysia's educational system and cultural variety provides an ideal environment for exploring the incorporation of virtual reality in the classroom (Azar et al., 2020). According to Khukalenko (2022), despite the growing popularity and acceptance of VR, there remain doubts over its full incorporation into curriculum. The expensive cost of VR equipment, occurrences of cybersickness, and the problem of overheating with extended usage are some of the obstacles associated with VR (Gavgani et al., 2017). A shortage of studies on teachers' acceptance of virtual reality and its integration into curricula necessitates carrying out this research. Liu (2023) stated that there is a lack of sufficient data regarding their perspectives on adoption. Jayes (2022) emphasised for the need to do research in elementary schools, secondary schools, and higher education institutions, encompassing both rural and urban areas, to effectively share information within the academic community.

# Literature Review 21st Century Learning

21st Century Learning, or *Pembelajaran Abad ke-21* (PAK21) is an initiative led by the Ministry of Education (MOE) that advocates for a student-centered approach to the learning process. PAK21, formulated during the subsequent stage of the Malaysia Education Blueprint 2013-2025, seeks to augment innovative cognition, and foster constructive moral principles among students, while simultaneously equipping them for the Industrial Revolution. The term "4.0" refers to the Industrial Revolution. 4.0 (also known as Industrial Revolution 4.0) Autonomy in learning is considered a crucial objective for students in the 21st century. To achieve Malaysia's objective of obtaining developed country status, the government has undertaken a variety of policies and evaluations in multiple sectors, such as the economy and education (Jamil et al., 2022). To effectively carry out the PAK21 initiative, teachers must exhibit unwavering commitment to teaching students with the essential competencies

required for achieving excellence in subject mastery, proficient communication, collaborative work, critical thinking, creativity, and technical aptitude.

According to Ahmad et al (2019), contemporary education prioritises the acquisition of skills over the mere presence of ICT tools or knowledge. Rusdin (2018) stated that teachers are willing to embrace PAK21, but they have limited understanding of the concept, which hinders their ability to effectively use it in their teaching. Teachers must engage in professional development to enhance their knowledge, teaching skills, and evaluation methods to effectively promote 21st-century learning. To effectively carry out the implementation of PAK21, teachers must exhibit unwavering commitment to educating students with the essential abilities to excel in subject expertise, proficient communication, collaborative work, analytical reasoning, creativity, and technical aptitude. Teachers in the classroom are required to exhibit excellent conduct and carry out a range of responsibilities to cater to the varying requirements of pupils (Liew, 2019). Burić and Moe (2020) asserted that there is a correlation between the level of excitement and job-related well-being. They found that teachers who are passionate are more inclined to efficiently carry out their work responsibilities.

#### Conceptualisations of Virtual Reality (VR)

Virtual reality (VR) technology has been employed in various fields, including medical training Qian et al (2022), engineering Häfner et al (2013), and entertainment Jia & Chen (2017), to demonstrate its inherent educational advantages. Virtual reality (VR) is a word used to describe an environment, either authentic or simulated, in which an individual experiences a feeling of being present in a different place (Minocha et al., 2017). Virtual reality (VR) is alternatively referred to as virtual environment, artificial realms, the metaverse, synthetic reality, virtual worlds, fictitious universe, or cyberspace (Alqahtani et al., 2017). VR technology can be precisely described as a computer-generated world having three-dimensional characteristics, enabling individuals to actively explore and interact with it. Virtual reality (VR) refers to computer-generated simulations that allow users to visualise intangible concepts or objects (Zhao & Lucas, 2015). Users have the capacity to completely engage in a virtual world that is three-dimensional. Users could communicate with objects, accomplish tasks, and participate in various activities within this environment (Pirker et al., 2017).

#### Teachers' Acceptance of Virtual Reality (VR)

The integration of technology in the classroom has been prevalent in the 21st century, aiming to enhance teachers' instructional methods and enhance students' understanding of the subject matter (Teo & Yunus, 2023). Nevertheless, despite the progress in technology, teachers in rural schools have been reluctant to use technology into their teaching due to the challenging circumstances they face (Jerry & Yunus, 2021). Despite the abundance of resources and infrastructures, the challenge lies in the successful delivery of engaging lessons by teachers employing educational technology. Users of a particular technological tool will have a favorable attitude towards technology once they perceive it as beneficial and easy to use. For instance, Zamora-Antuñano et al (2021) found that teachers effectively employed technology for emergency remote education because of receiving enough training to manage the Covid-19 epidemic. While Rashid et al (2021) found that teachers demonstrated a moderate level of technology acceptance, suggesting that they were not well equipped to address the challenges associated with emergency remote teaching. Hence, Corry and Stella (2018) suggested that both novice and experienced teachers should participate in

professional development initiatives to enhance their self-confidence, online instructional techniques, and availability of technology and pedagogical assistance.

#### Virtual Reality (VR) in Malaysian Education Setting

The application of virtual reality (VR) in English as a Second Language (ESL) instruction in Malaysia has been observed in all educational levels and areas. Malaysia has presented a compelling argument for incorporating technology into education to adequately equip its students for the demands of the digital era. Virtual reality (VR) technology is considered a modern technology that educators view as highly promising for incorporation into several academic disciplines. Nevertheless, teachers remain reluctant to incorporate technologies, such as virtual reality (VR), into their instructional and learning approaches (Tallvid, 2016). Some teachers in Malaysia have struggled to adapt to the move from a teacher-centered approach to a student-centered approach in the education system. Their primary objective is to ensure timely delivery of all the content and adequately prepare students for their final assessment (Saleh & Jing, 2020). The Malaysia Education Blueprint (2013-2025) places great importance on the use of technology to improve educational quality. The utilisation of cutting-edge technologies such as virtual reality has gained substantial momentum to actively involve students and transform conventional instructional approaches.

#### Virtual Reality (VR) in English as a Second Language (ESL) classrooms

Numerous have proven that the utilisation of virtual reality (VR) has resulted in a significant improvement in English as a Second Language (ESL) proficiency (Jayes et al., 2022). Research suggested that virtual reality (VR) helps improve the ability to comprehend and analyse written material language (Yunus et al., 2020). Proficiency in English is generally esteemed; however it is largely recognised as a challenging skill to acquire. VR technology is a comprehensive form of information technology that provides new and creative opportunities for teaching English (Zhou, 2020). Damio and Ibrahim (2019) claimed that VR has the capacity to strengthen students' speaking proficiency, as observed by Jamrus and Razali (2019) who also emphasised the favourable influence of VR technology on students' speaking aptitude. These studies may offer data indicating that VR technology has advantageous benefits on students' English proficiency. Therefore, it is essential to incorporate the use of virtual reality (VR) technology to create an engaging language learning environment.

#### Expectancy Value Theory

The Expectancy-Value theory is a comprehensive framework that enables a comprehensive comprehension and precise anticipation of consequential outcomes, such as judgements pertaining to accomplishment, tenacity, and behaviours (Wigfield & Eccles, 2000). The theory suggests that expectations of accomplishment and subjective task values are direct factors influencing these important results. This is relevant to the research as it aims to assess the level of acceptance of virtual reality among teachers in elementary and secondary schools. Therefore, it is crucial to determine the expected requirements from teachers before completely integrating virtual reality (VR) technology into their classrooms. Based on this idea, the adoption of innovations is more probable when the perceived value of the innovation and the possibility of success are high, and when the positive aspects of adopting the innovation transcend the perceived costs of implementing it. Teachers' decisions to integrate an innovation, such as virtual reality (VR) technology, into the classroom are

determined by three factors: their level of acceptance towards the innovation, their expectations regarding its efficacy, and their perception of the costs connected with its implementation and use.

The expectation demands are employed to examine teacher beliefs regarding the correlation between the adoption of a specific technique and the desired outcome. These attributes include both intrinsic elements, such as self-assurance, and extrinsic factors, such as the school's geographical placement. The efficacy of VR technology in the classroom is dependent upon the teacher's viewpoint and their assessment of its value. In terms of costs, it would involve the teachers' commitment, time, and personal assets needed to fully integrate VR technology in the classroom. The perspectives of teachers regarding their value and competence in integrating technology are essential for predicting the scope and quality of technology integration in classrooms (Vongkulluksn et al., 2018). When evaluating a teacher's acceptance of a VR technology in the classroom, it is crucial to evaluate three key variables: expectancy, value, and costs.

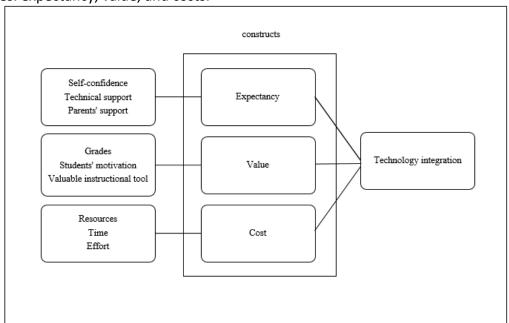


Figure 1. Conceptual framework adapted from Expectancy Value Theory (Ecclas et al., 1983)

Teachers must possess a strong sense of self-assurance in their proficiency to utilise virtual reality (VR) technology within the educational setting, while also highlighting the importance of parental assistance and encouragement. Technical support is necessary to ensure the optimal utilisation of technology in the classroom. Furthermore, it is crucial to acknowledge the significance of virtual reality (VR) technology, as it possesses the capacity to generate positive outcomes, particularly within the student population. These effects encompass enhanced academic achievement, heightened drive for acquiring knowledge, and the acknowledgement of the value of this technology by both students and teachers. Concerning the cost, it is anticipated that the practicality of VR technology would be unlikely to place unnecessary pressure on teachers regarding resources, time, and effort. Mukminin et al (2022) have substantiated the assertion that teachers are more likely to adopt technology for educational purposes if they believe it to be user-friendly. According to this theory, these variables are crucial factors that must be considered to fully adopt VR technology in the classroom.

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According to Chen (2020), researchers have investigated how curiosity and self-efficacy, which are important factors, can be developed in student teachers using various media in teacher education. Rashid et al (2021) discovered that teachers lacked the necessary readiness for emergency remote instruction because of limited technological adoption. Training environments that employed virtual reality (VR) have also demonstrated a similar beneficial effect on interest and self-efficacy. In their study, Makransky et al (2020) found that the use of immersive virtual reality (VR) technology led to increased motivation, engagement, and pleasure in the academic pursuits of university and middle school students. This can be due to the intense feeling of presence that was consistently encountered during the virtual reality sessions. Teachers' self-efficacy in classroom management is a crucial aspect of their professional competence and is positively associated with the quality of classroom management (Lazarides et al., 2021). Therefore, teachers, parents, and classmates have a role in creating a nurturing atmosphere to aid the learner throughout the learning process (Yunus & Abdullah, 2011).

## Methodology Research Design

The study utilised a quantitative research approach, particularly employing a cross-sectional survey methodology. Cross-sectional design refers to the act of monitoring a sample or cross section of a population or phenomenon at a specific moment in time (Bhattacherjee, 2012). Meanwhile, Setia (2016) defined cross-sectional study design as a type of observational study design. Fowler (2013) claimed that surveys can be employed to gather extensive data about the experiences, behaviours, and opinions of the individuals who participate in them. Bryman (2012) recommended that surveys offer significant benefits when gathering data from a sizable population that is extensively dispersed across a big geographic region. Given that there are a total of 32 schools in the Tatau and Sebauh districts of Sarawak. Conducting a cross-sectional survey is the most optimal method to collect data in both districts.

#### **Research Participants**

The respondents in this study were selected through purposive sampling, with a specific focus on English Language teachers from different schools in the Tatau and Sebauh districts of Sarawak. Etikan et al (2016) provided a definition of purposeful sampling as a non-probability sampling method that involves the investigator deliberately selecting individuals for the study. This sampling method is frequently utilised when there is a scarcity of individuals possessing the requisite expertise or experience to partake in the study being conducted. The selection criteria for these respondents is based on their current position as English Language teachers, regardless of whether it is their main subject in teaching. Out of a cohort of 169 English Language teachers, 150 teachers readily consented to take part in this investigation, resulting in a response rate of 88.8%. In their study, Shih and Fan (2018) discovered that the implementation of reminders resulted in higher response rates for surveys conducted via both mail and email. Frequent reminders were given to respondents via WhatsApp and Facebook Messenger during the period of this research.

#### **Research Instruments**

According to Creswell (2013), the research instrument plays a vital role in collecting dependable and legitimate data that is consistent with the study's aims. This study employed

an online survey as the principal research instrument to gather data from teachers in primary and secondary schools. The questionnaire consisted of four sections: demographic information (Section A), previous technology experience (Section B), perceptions of the use of VR technology in the classroom (Section C), and integration of VR technology (Section D). A grand total of 34 questions were formulated for the respondents to provide answers to. Three experts actively participated in the validation of the questionnaire during the instrument's design phase. The individuals in question were two specialists affiliated with the Tatau/Sebauh district education office, who are also members of the SISC+ (School Improvement Specialist Coaches Plus) team. The third expert possessed a master's degree in English literature and served as an English Language lecturer. Hence, the subsequent factors determine whether to validate an existing questionnaire or generate an entirely new one to examine the identical subject matter.

The goal of Section A is to gather demographic data from respondents. The poll had seven questions, and respondents had to choose one answer from the available options. Dornyei (2007) suggested that collecting demographic data provides a full overview of participants and permits future investigation of certain subgroups. Section B consists of 10 questions to gather data on respondents' prior technology experience. In Section C, respondents provide their views on implementing VR technology in education. Respondents were instructed to make use of a 5-point Likert scale to pick responses for sections A and B. Likert scaling is a common psychometric concept in survey research. This method uses questionnaires to measure attitudes or opinions by requiring respondents to offer scaled responses. Likert scaling measures agreement or disagreement with a statement.

#### **Data Collection Method**

Creswell (2013) asserted that the data collecting phase of a research project is crucial, as it entails the acquisition of relevant information to answer the research objectives. Considering the current spread of the COVID-19 pandemic and the imposed restrictions on mobility, the available information data collection for this research was carried out online. This method ensured the safety and well-being of both the participants and researchers, while also enabling the rapid and uncomplicated collection of data. The online survey approach was selected for its capacity to efficiently contact many respondents while maintaining a high level of efficacy (Bryman, 2012). A pilot test verified the survey instrument's validity and reliability before primary data collecting. The pilot test included 50 English Language teachers from another district who were not final respondents. The school administration delivered all English Language teachers the Google Form URL. Some respondents received the URL link directly, while others received it from their administrators. Due to the large geographical range of venues, data collecting took three weeks. Rural respondents have difficulties participating due to inconsistent internet connectivity.

#### Data Analysis Procedure

Data analysis is a crucial stage in the research process as it involves transforming raw data into meaningful and comprehensible information (Creswell, 2013). The data obtained in this study received extensive review to meet the research objectives. The collected data was examined using SPSS version 26. The acquired data was summarised and characterised using descriptive statistics. The parameters used in the analysis are frequency, percentage, mean, and standard deviation. The analysis sought to provide a comprehensive summary of the responses provided by the respondents. Descriptive statistics facilitated the analysis of

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variable distribution, enabling the determination of central tendency and variability in the data (Field, 2005). The studies yielded useful insights into the respondents' views, experiences, and practices related to VR technology. The survey instrument's validity was verified using Cronbach's Alpha. Statistics like Cronbach's Alpha assess a questionnaire's internal coherence. The Cronbach's Alpha coefficient was 0.915. The word "internal consistency" refers to how well each section's survey questions measure the same topic. This makes the survey trustworthy (Field, 2005). This study's survey instrument's Cronbach's Alpha coefficient confirmed the respondent's answers' coherence and trustworthiness.

# Findings and Discussion The Acceptance Level of VR Technology

Table 1
Stage of VR technology integration

Acceptance stage	Frequency	Percentage (%)
Awareness	0	0
Learning	39	26.0
Familiarity	38	25.3
Understanding	0	0
Adaptation	37	24.7
Creative	36	24.0
application		
Total	150	100

Table 1 presents the level at which virtual reality (VR) technology is used by 150 respondents in an educational environment. Among the total those who responded, 39 respondents (26.0%) admitted to currently being in the learning phase. This suggests that they are currently in the phase of obtaining essential knowledge, although they still lack self-assurance in their capabilities. Additionally, a total of 38 respondents (representing 25.3% of the sample) confirmed that they are currently in the stage of familiarity. Currently, the respondents said that their understanding of using virtual reality (VR) technology is improving, and they could identify jobs that could be advantageous. Furthermore, a total of 37 respondents, representing 24.7% of the entire sample, indicated their agreement with the concept of being in the adaptation phase. Likewise, 36 respondents, accounting for 24.0% of the total, confirmed their involvement in creative application. During the adjustment period, 37 respondents do not perceive the incorporation of VR technology into the classroom as challenging since they are no longer preoccupied with technological progress. During the phase of creative application, 36 respondents demonstrated their confidence in efficiently using VR technology for English Language teaching.

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## Teachers' Perceptions on VR Technology

Table 2

Teachers' perceptions on VR technology

No.	Statements	Mean	Standard	Interpretation
		(M)	Deviation (σ)	
1	Enhances students'	4.50	0.502	High
	academic performance.			
2	Facilitates the task	3.75	0.837	Medium high
	of handling a classroom.			
3	Facilitates the	4.25	0.835	High
	enhancement of verbal			
	and written			
	communication abilities.			
4	Demands	4.49	0.501	High
	additional resources,			
	time, and energy			
5	The adoption of VR	3.27	0.833	Medium high
	technology in the			
	classroom relies only on			
	the presence of sufficient			
	teacher training.			
6	Success is	3.24	0.429	Medium high
	dependent on regular			
	care of the equipment by			
	IT personnel.			
7	Is a highly efficient	4.26	1.298	High
	instrument for students			
	of varying ability levels.			
8	Teachers' active	3.49	0.501	Medium high
	involvement in the			
	selection and			
	implementation of VR			
	technology is crucial for			
	its effectiveness.			
9	Enables flexibility	4.22	1.320	High
	in the adaptation of			
	students' particular			
	characteristics			
10	Encourages	4.50	0.502	High
	students to actively			
	participate in educational			
	activities.			
11	Demands software	3.24	0.841	Medium high
	instruction that is			
	efficient in terms of time			
	consumption			

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12	Facilitates the cultivation of students' interpersonal skills	2.72	1.286	Medium low
13	This approach is only effective when there is a wide range of technical materials readily accessible.	4.76	0.429	High
14	Does not necessitate additional time for the preparation of educational tasks.	4.27	0.833	High
15	Enhances students' understanding and mastery of essential concepts and ideas.	3.99	0.705	Medium high
16	It is possible to be reasonable because there is subject-specific software out there.	3.73	1.105	Medium high

Table 2 displays teachers' perspectives on the level of acceptability of Virtual Reality (VR) technology in the classroom. The potential aspects that may influence teachers' inclination to fully incorporate virtual reality (VR) technology in the classroom were considered. The questionnaire was designed based on the Expectancy-Value Theory introduced by Ecclas et al. in 1983. The theory has three constructs: expectation, value, and cost. The constructs are present in the 16 questions located in Section C. The mean scores in this data are interpreted according to Nunnally and Berstein's (1994) table of mean score interpretation. According to this table, scores ranging from 1.00 to 2.00 are considered low level, scores ranging from 2.01 to 3.00 are considered medium low, scores ranging from 3.01 to 4.00 are considered medium high, and scores ranging from 4.01 to 5.00 are considered high.

Nunnally and Berstein (1994) discovered that items 5, 6, 8, 13, and 16, which relate to the expectancy construct, had scores ranging from medium high to high. The mean scores for these items were 3.27 ( $\sigma$  = 0.833), 3.24 ( $\sigma$  = 0.429), 3.49 ( $\sigma$  = 0.501), 4.76 ( $\sigma$  = 0.429), and 3.73 ( $\sigma$  = 1.105) correspondingly. The expectation items are used to assess teachers' perceptions regarding the correlation between the application of a certain approach and the intended result. These criteria encompass both inherent qualities, such as confidence, and external variables, such as the school's location. Item 6, which highlights the need of regular maintenance of the equipment by IT staff, received the lowest average score of 3.24 among the statements related to the expectation construct. The highest mean score of 4.76 was obtained by Item 13, which suggests that VR technology is advantageous only when there is a wide selection of readily accessible technical materials.

Based on this questionnaire, items 1, 2, 3, 7, 9, 10, 12, and 15 are statements that pertain to values. Based on the gathered data, the items within the value construct have an average score interpretation that spans from quite low to high. The respondents provided an average rating of 2.72 (with a standard deviation of 1.286), indicating the least amount of

agreement, for Item 12. This item pertains to the use of VR technology and its ability to improve students' interpersonal skills. In terms of costs, it would encompass the dedication of teachers, the amount of time required, and the personal resources necessary for the complete implementation of VR technology in the classroom. There are three statements inside the cost construct, notably item 4, 11, and 14. The average scores vary from moderately high to high. Item 4, which concerns the resource, time, and energy demands of VR technology, had the highest average score of 4.49 (standard deviation = 0.501). Conversely, item 11, which evaluates the time efficiency of software education, received the lowest average score of 3.24 ( $\sigma$  = 0.841).

### **Overall Findings**

English Language teachers in the Tatau and Sebauh districts of Sarawak are effectively employing virtual reality (VR) technology to their advantage. Research on VR technology adoption in education reveals that English Language teachers in the Tatau and Sebauh districts of Sarawak demonstrate a notably favourable attitude towards the integration in their classrooms. The data and analysis demonstrate that most teachers in Tatau and Sebauh districts in Sarawak, who teach English as a Second Language (ESL) in elementary and secondary schools, are open to and eager about using virtual reality technology. The teachers' willingness to include virtual reality (VR) into their classes is supported by the presence of excellent internal consistency, favourable item-total correlations, and significant internet usage. This affirmative reaction suggests that Virtual Reality has the potential to be advantageous in English Language Teaching (ELT) sessions in this field.

The results are consistent with the findings of Barrett et al (2023), who found that the evaluation of consumers' willingness to adopt advanced technology is strongly influenced by the correlations between each item. Consistent with previous research on the positive impact of virtual reality (VR) in education, this study reveals that English teachers in Tatau and Sebauh districts recognise the potential benefits of VR in enhancing various aspects of classroom instruction, including academic performance, presentation skills, and language development. Most English Language teachers in Tatau and Sebauh districts allocate at least 6 to 7 hours per day to online activities, indicating a highly technologically proficient teaching community. This is consistent with studies that suggests that teachers' knowledge and proficiency with digital technologies influence their willingness to integrate such tools into the classroom (Jang et al., 2021). However, some respondents are hesitant to use virtual reality (VR) technology in English language instruction due to equipment and competence issues. Rashid et al. (2021) found that teachers were unprepared for emergency remote instruction due to low technological adoption.

#### Conclusion

Research indicates that most respondents have positive attitudes towards incorporating virtual reality (VR) into teaching and learning, despite limited access to resources due to factors like location. The integration of virtual reality (VR) technology in educational environments has greatly enhanced the entire educational experience. The research has significantly advanced our understanding that the use of VR technology is causing a notable surge in internet usage, posing a significant concern for English teachers in educational settings. The incorporation of the internet has become an essential element of the modern classroom, transforming different aspects of the education system. A significant breakthrough in the realm of education is the emergence of virtual reality and its

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incorporation into the educational setting. This technology offers an engaging and interactive experience that is transforming the educational process.

In the theoretical section of the research, we also examined how expectations of accomplishment and subjective task values directly impact these significant outcomes. The results indicated that teachers' inclination to include virtual reality (VR) into their classrooms is reinforced by the presence of strong internal consistency. This positive response indicates that Virtual Reality has the capacity to be beneficial in English Language Teaching (ELT) sessions in this domain. This aligns with research indicating that teachers' expertise and competence in digital technologies impact their inclination to include these tools into the classroom. The implementation of VR technology is expected to have minimal impact on teachers in terms of resource allocation, time management, and effort exertion.

#### Recommendations

Virtual reality has emerged as a sophisticated and effective educational tool, providing learners with an engaging and immersive learning experience that surpasses the constraints of conventional instruction. The limited availability of virtual reality (VR) equipment poses a substantial obstacle that hinders several teachers from adopting this technology in the classroom. Therefore, it is crucial to maintain the cost of equipment within a fair range all regions, to ensure that schools and institutions may easily access them. As researchers gave minimal attention to this topic, it holds considerable potential for investigation. This study might act as a stimulus for more investigation by researchers and developers. Future research should explore the determinants of teachers' reluctance to fully adopt virtual reality (VR) technology for instructional purposes in the classroom. Furthermore, conducting an extensive interview could be undertaken to get teachers' individual viewpoints on the practical difficulties of integrating VR technology.

#### References

- Ahmad, S. A., Soo, Y. K., Yunos, R. M., and Amin, J. M. (2019). Exploring Lecturers' Readiness for 21st Century Education in Malaysian Higher Learning Institutions. *Proceedings of The International Conference on New Approaches in Education*.
- Alharbi, A. A. M. (2020). The Degree of Teaching Knowledge for Saudi EFL Teachers: An Investigation for Madinah EFL Teachers' Perceptions Regarding TPACK Framework. English Language Teaching, 13(10), 99.
- Alqahtani, A. S., Daghestani, L. F., & Ibrahim, L. F. (2017). Environments and system types of virtual reality technology in STEM: A survey. *International Journal of Advanced Computer Science and Applications*, 8(6).
- Azar, A. S., Tan, N. H. I., Al Aqad, M. H., Hashim, A., Nor, N. F. M., Singh, M. K. M., & Ali, A. M. (2022). The Use of e-learning platforms during the Covid-19 Movement Control Order: Malaysian university students' perceptions, satisfactions, and challenges. *Journal of Positive School Psychology*, 6(9), 823-845.
- Barrett, A., Pack, A., Guo, Y., & Wang, N. (2023). Technology acceptance model and multi-user virtual reality learning environments for Chinese language education. *Interactive Learning Environments*, 31(3), 1665-1682.
- Burić, I., & Moe, A. (2020). What makes teachers enthusiastic: The interplay of proof positive, self-efficacy, and job satisfaction. *Teacher Education*. 89, 110.
- Chu, Y. H., & Li, Y. C. (2022). The Impact of Online Learning on Physical and Mental Health in University Students during the COVID-19 Pandemic. *International Journal of Environmental Research and Public Health*, 19(5), 2966.
- Corry, M., & Stella, J. (2018). Teacher self-efficacy in online education: A review of the literature. *Research in Learning Technology*, 26.
- Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approach*. Sage Publications.
- Damio, S. M., & Ibrahim, Q. (2019). Virtual reality speaking application utilisation in combatting presentation apprehension. *Asian Journal of University Education*, 15(3), 235-244.
- Durnalı, M., Orakcı, Ş., & Aktan, O. (2019). *The Smart Learning Potential of Turkey's Education System in the Context of FATIH Project*. In Cases on smart learning environments (pp. 227-243). IGI Global.
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-4
- Field, A. P. (2005). Discovering Statistics Using SPSS. Sage Publications Inc.
- Fowler, F. J. (2013). Survey Research Methods. Sage Publications.
- Häfner, P., Häfner, V., & Ovtcharova, J. (2013). Teaching methodology for virtual reality practical course in engineering education. *Procedia Computer Science*, 25, 251-260.
- Jamil, A. H., Mohd Sanusi, Z., Yaacob, N. M., Mat Isa, Y., & Tarjo, T. (2022). The Covid-19 impact on financial crime and regulatory compliance in Malaysia. *Journal of Financial Crime*, 29(2), 491-505.
- Jamrus, M. H. M., & Razali, A. B. (2019). Using self-assessment as a tool for English language learning. *English Language Teaching*, 12(11), 64-73.
- Jang, J., Ko, Y., Shin, W. S., & Han, I. (2021). Augmented reality and virtual reality for learning: An examination using an extended technology acceptance model. IEEE access, 9, 6798-6809.

- Jayes, J. D. (2022). Virtual reality in Malaysian English as a second language learning: A systematic review and implications for practice and research. *Global Academic Excellence (M) Sdn Bhd*.
- Jerry, M., & Yunus, M. M. (2021). Blended learning in rural primary ESL classroom: Do or don't. *International Journal of Learning, Teaching and Educational Research*, 20(2), 152-173.
- Jia, J., & Chen, W. (2017). The ethical dilemmas of virtual reality application in entertainment. In 2017 IEEE International Conference on Computational Science and Engineering (CSE) and IEEE International Conference on Embedded and Ubiquitous Computing, 1: 696-699.
- Kacetl, J., & Klímová, B. (2019). Use of Smartphone Applications in English Language Learning—A Challenge for Foreign Language Education. *Education Sciences*. 9(3), 179.
- Khan, S. A. R., Umar, M., Asadov, A., Tanveer, M., & Yu, Z. (2022). Technological revolution and circular economy practices: a mechanism of green economy. *Sustainability*, 14, 4524.
- Khukalenko, I. S., Kaplan-Rakowski, R., An, Y., & Kushina, V. D. (2022). Teachers' perceptions of using virtual reality technology in classrooms: A large-scale survey. *Education and Information Technologies*, 27, 11591-11613.
- Liew, K. D. (2019). Effective Teaching in The Context of 21<sup>st</sup> Century Learning in A Malaysian Secondary School. *Asian Journal of University Education*, 14(2).
- Liu, S., Bao, J., & Zheng, P. (2023). A review of digital twin-driven machining: From digitization to intellectualization. *Journal of Manufacturing Systems*, 67, 361-378.
- Makransky, G., Andreasen, N. K., Baceviciute, S., & Mayer, R. E. (2020). Immersive virtual reality increases liking but not learning with a science simulation and generative learning strategies promote learning in immersive virtual reality. *Journal of Educational Psychology*, 113, 719–735.
- Gavgani, M. A., Walker, F. R., Hodgson, D. M., & Nalivaiko, E. (2018). A comparative study of cybersickness during exposure to virtual reality and "classic" motion sickness: are they different? *Journal of Applied Physiology*, 125(6), 1670-1680.
- Ministry of Education Malaysia (MOE). (2013). Malaysia Education Blueprint 2013 2025. Kuala Lumpur.
- Minocha, S., Tudor, A. D., & Tilling, S. (2017). Affordances of mobile virtual reality and their role in learning and teaching. *Electronic Visualisation and the Arts (EVA 2017)*, 1-10.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric Theory.* (3<sup>rd</sup> Ed.). New York: McGraw-Hill.
- Rashid, A. H. A., Shukor, N. A., Tasir, Z., & Na, K. S. (2021). Teachers' perceptions and readiness toward the implementation of virtual learning environment. *International Journal of Evaluation and Research in Education (IJERE)*. 10(1): 209-214.
- Pirker, J., Lesjak, I., & Guetl, C. (2017, July). Maroon VR: A room-scale physics laboratory experience. *In 2017 IEEE 17th International Conference on Advanced Learning Technology (ICALT)*.
- Qian, J., McDonough, D. J., & Gao, Z. (2020). The effectiveness of virtual reality exercise on individual's physiological, psychological, and rehabilitative outcomes: A systematic review. *International Journal ofEnvironmental Research and Public Health*, 17(11), 4133.
- Rusdin, N. M., & Ali, S. R. (2018). Implementation of 21st century learning and the challenges. In Proceedings of the 3rd UUM International Qualitative Research Conference (QRC), 66-73.

Vol. 13, No. 3, 2024, E-ISSN: 2226-6348 © 2024

- Santhanasamy, C., & Yunus, M. M. (2022). A systematic review of flipped learning approach in improving speaking skills. *European Journal of Educational Research*, 11(1), 127-139.
- Tallvid, M. (2016). Understanding teachers' reluctance to the pedagogical use of ICT in the 1: 1 classroom. *Education and Information Technologies*, 21, 503-519.
- Teo, W. C., & Yunus, M. M. (2023). Exploring teachers' acceptance during Covid-19 pandemic: A systematic review (2022-2023). *International Journal of Evaluation and Research in Education (IJERE)*, 12(2), 956-968.
- Tira Nur, F. 2020. Teaching English through Online System During Covis 19 pandemic. International Journal of Advanced Scientific Research & Development(IJASRD), 1(3394), 7–20.
- Tseng, J. J., Cheng, Y. S., & Yeh, H. N. (2019). How pre-service English teachers enact TPACK in the context of web-conferencing teaching: A design thinking approach. *Computers & Education*, 128, 171–182.
- Vongkulluksn, V. W., Xie, K., & Bowman, M. A. (2018). The role of value on teachers' internalization of external barriers and externalization of personal beliefs for classroom technology integration. *Computers & Education*, 118, 70-81.
- Wigfield, A., & Eccles, J. S. (2000). Expectancy–value theory of achievement motivation. *Contemporary Educational Psychology*, 25(1), 68-81.
- Yunus, M. M., & Arshad, N. D. M. (2015). ESL teachers' perceptions toward the practices and prospects of autonomous language learning. *Asian Social Science*, 11(2), 41.
- Yunus, M. M., & Abdullah, N. R. K. R. B. (2011). Motivation and attitudes for learning English among
- year six students in primary rural school. *Procedia-Social and Behavioural Sciences*, 15, 2631-2636
- Yunus, M. M., Tuan, J. L. K., & Salehi, H. (2013). Using blogs to promote writing skill in ESL classroom. arXiv preprint arXiv:1305.6358.
- Yunus, M. M., Nordin, N., Salehi, H., Embi, M. A., & Salehi, Z. (2014). Future of ICT as a Pedagogical Tool in ESL Teaching and Learning. *Research Journal of Applied Sciences, Engineering and Technology*, 7(4), 764-770.
- Yunus, M. M., Yen, E. L. Y., Khair, A. H. M., & Yusof, N. M. (2020). Acquisition of vocabulary in primary schools via GoPic with QR code. *International Journal of English Language and Literature Studies*, 9(3), 121-131.