Lingua : Journal of Linguistics and Language
E-ISSN : 3032-3304
Volume. 2 Issue 3 September 2024
Page No: 128-138

Effectiveness of Virtual Reality Application as English Learning Media

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Received : August 12, 2024
Accepted : September 9, 2024
Published : September 24, 2024

Citation: Wibowo, Y, W, A., Murtopo, A., & Sari, D, P. (2024). Effectiveness Of Virtual Reality Application as English Learning Media. Lingua : Journal of Linguistics and Language, 2(3), 128-138.

ABSTRACT: In recent years, technological advancements have significantly transformed various aspects of education, including language learning. The application of virtual reality technology greatly encourages learners to have high levels of curiosity. Researchers want to develop English language learning with virtual reality, which has the advantage of students being able to explore the virtual world with conditions exactly like real life in the hospitality industry). Where learners hone their understanding of English through analyzing the virtual world. In the context of language learning, understanding the effectiveness and acceptance of innovative instructional approaches is crucial. Based on the background that has been described, the problem can be formulated as follows, how effective is the application of virtual reality media in improving the English language skills of students at SMK Negeri 1 Abung Selatan. This research practically provides an overview and steps for the use and development of learning models by applying virtual reality,One such cutting-edge technology that has gained increasing attention in the field of language education is Virtual Reality This research measures the effectiveness of the application of Virtual Reality technology with quantitative research methods using an experimental approach. The subjects in this research are 34 students majoring in Hospitality Accommodation in class XI.1 and 31 students in class XI.2 who take Hospitality English lessons. The majority of respondents feel ease and comfort in their interactions with Virtual Reality, with the advantage that students are able to explore the virtual world with conditions like real life in the hotel industry. The application of Virtual Reality technology encourages students to have a high curiosity. Most of the students stated that learning using gamification was effective because it was related to the previous topics, fun, easy to understand, accessible, increased enthusiasm and interest for learning. It also did not spend a lot of internet data plans and time.

Keywords: Learning Media, Virtual Reality, English.

INTRODUCTION

The development of information and communication technology among today's masses has had a great influence on the learning process. Easy access to technology has been utilized by teachers to facilitate the learning process. The quality of education can also be improved by accessing technology. In the world of education, almost everything has become possible since the invention of

internet technology. Now students can learn anytime and anywhere by using existing electronic learning system equipment. So that teachers can not only use appropriate media, but also methods that can improve the learning process (RIZQININGSIH & HADI, 2019).

Nowadays, English has become one of the foreign languages that everyone must master. This is because English is used as an international language for communicating between nations. In the world of education, English lessons have been established as a compulsory subject(C. Li et al., 2021). English lessons given at school are also expected to provide provisions for students for other fields in the future, such as education, tourism, culture, and technology. Therefore, it is important for students to gain a good understanding of English in order to communicate well and prepare themselves for a better future.

Effective and efficient learning is the main goal in education (Dharma, 2023). To achieve this goal, teachers must pay attention to the individual needs of students and create different learning strategies, or what is commonly referred to as differentiated learning. One way to implement differentiated learning is to use interesting and innovative learning media, such as virtual reality. The use of interesting learning media can motivate students to learn English at SMK more actively and effectively(Liu et al., 2017). The use of virtual reality as an English learning medium can provide benefits, including adding to the attractiveness of learning materials, facilitating understanding of English, and providing a fun and interesting learning experience for students (Indriyani, 2019).

According to Leslie & Russell (2016), proficiency in foreign languages is crucial for individuals employed in the tourism and hospitality industries(LESLIE & RUSSELL, 2016). This suggests that Hospitality English is a specialized English program designed to equip vocational students majoring in hospitality accommodation with the language skills and terminology necessary to thrive in the industry. The use of English in the hospitality and tourism sectors includes a different variety of vocabulary, terms, expressions, and interpretations when compared to general English. English for Tourism and Hospitality falls under the domain of English for Specific Purposes. Communication plays a vital role in the hospitality sector, where effective interaction with guests, colleagues, and supervisors is essential to delivering high-quality service. As English is widely recognized as a global lingua franca, it is imperative that hospitality professionals have proficient English skills. Therefore, a focus on teaching English for hospitality is essential to preparing students for a successful career in the global hospitality industry.

Researchers want to develop English language learning with virtual reality, which has the advantage of students being able to explore the virtual world with conditions exactly like real life in the hospitality industry (PRAMASTA & Y.W.A, 2023). Where learners hone their understanding of English through analyzing the virtual world. The application of virtual reality technology greatly encourages learners to have high levels of curiosity(Chang et al., 2018; Valmaggia et al., 2016). The research objective of this research is how effective the application of virtual reality media in improving the English language skills of students at SMK Negeri 1 Abung Selatan, North Lampung. In detail, the purpose of this study is to find how much the effectiveness of learning using virtual reality media affects the English language skills of students at SMK Negeri 1 Abung Selatan North Lampung(ABUHASSNA & AL-SAMARRAIE, 2020; H. LI ET AL., 2018). This research practically provides an overview and steps for the use and development of learning models by applying virtual reality, so that English teachers can choose more effective learning media to

improve students' English skills(CHEN & WANG, 2021). Theoretically, this research is useful to complement and enrich the repertoire of theories that have been obtained through previous research and provide opportunities for further and more in-depth research on the same subject using theories that are not used in this study.

METHOD

Research Design

For This study employs a mixed-methods approach, combining quantitative and qualitative data collection to comprehensively evaluate the effectiveness of virtual reality (VR) applications in teaching English(Ending, 2021; Fominykh et al., 2018). The research is divided into the following phases : Phase 1: Literature Review. Conduct a thorough review of existing literature on VR in education, specifically focusing on language learning. Identify key metrics and factors influencing the effectiveness of VR as a learning tool. Phase 2: Questionnaire Development. Develop a questionnaire based on insights from the literature review. This research was conducted at SMK Negeri 1 Abung Selatan, North Lampung, class XI.1, totaling 34 students, and class XI.2, totaling 31 students, for a total of 65 students.

Population and Sample

The population for this study was taken from the students of SMK Negeri 1 Abung Selatan, North Lampung. This study used a saturated sample which was taking all samples because the population was less than 100, where all members of the population are used as the sample. Another opinion states that the sample used in this study is a total sample (total sampling) because the population is limited or all members of the population are used as samples (Sugiyono, 2013). The effectiveness of the application of virtual reality (VR) as an English learning medium can be determined using research methods that include a comprehensive and systematic design(Dascal et al., 2017; H. Li & Ma, 2017). The population in this study were the students of SMK Negeri 1 Abung Selatan, North Lampung, In this study, the sample used was class XI.1, totaling 34 students, and class XI.2, totaling 31 students, for a total of 65 students. The sample is a number or part of the individuals being investigated (Hadi, 2005). Another opinion states that the sample used in this study is a total sample (total sampling) because the population is limited or all members of the population are used as samples (Sugiono, 2013). Given that this study uses a quasi- experiment design model, or quasi-experiment design, Therefore, no randomization is required before the experiment is carried out, so the sample of this study is determined to be the entire population. Thus, it can also be said that this research is population research.

Research Instruments

The research instrument used in this study, especially in seeing the effect of existing variables, is in the form of a questionnaire or research questionnaire using a Likert scale. Likert scale respondents answer research questions by giving a cross (X), on alternative answers prepared From the respondent's answer, the value is scored, then it can be processed quantitatively based on the scale that has been determined. Research instruments that use the Likert Scale can be made in the form of Checklists or multiple choices (Sugiyono, 1993: 73-74) The data will be analysed using multiple regression analysis, which is the analysis used to analyse in measuring the effectiveness of the use of

virtual reality.

Distribute the finalized questionnaire through online platforms Google Forms, and in educational institutions using VR for English learning.Ensure participants are informed about the purpose of the study and their rights, including confidentiality and voluntary participation. Data analysis in this study consists of three stages: reducing data, disclosing data, and making conclusions.

Table 1. Questionnaire questions and respondents' answers

NO	Questions	Yes	No
1	Is Virtual Reality easy to be understood?		
2	Is Virtual Reality easy to be obtained?		
3	Do you spend a lot of Internet data plans when using Virtual Reality ?		
4	Are you easy to contact your teachers or friends when using Virtual Reality?		
5	Does Virtual Reality increase your enthusiasm for learning?		
6	Does Virtual Reality spend a lot of your free time?		
7	Do you want to continuously use Virtual Reality		
8	Is Virtual Reality fun?		
9	Does Virtual Reality increase your willingness to learn?		
10	Do you want Virtual Reality to be used in other subjects?		
11	Is Virtual Reality effective enough?		
12	Do English Teachers use Virtual Reality ?		

Data Analysis Techniques

The data analysis technique used to analyse quantitative primary data derived from respondents is the statistical calculation method. Because the variables used in this study are more than one, the statistical method used is multiple linear regression. In addition, a validity test will be carried out(Othenk, 2008). The validity test is intended to test the extent to which the measuring instrument in this case can measure what it wants to measure. If the researcher uses a questionnaire in data collection, the questionnaire must measure what he wants to measure. After the questionnaire is compiled, in practice it is not certain that the data collected is valid data. Meanwhile, the reliability test is a test that concerns the accuracy (acuraccy) of the measuring instrument (questionnaire questionnaire). This accuracy can be assessed by statistical analysis to determine the measurement error of the measuring instrument, and if the measuring instrument has been declared valid, then the reliability of the measuring instrument is tested. The smaller the measurement error, the more reliable the measuring device and vice versa, the greater the measurement error, the less reliable the measuring device. The size of the measurement error can be known, among others, from the correlation value between the first and second measurement results. If the correlation value (r) is squared, the result is called the coefficient of determination, which is a clue to the size of the actual measurement results, the higher the correlation number, the greater the coefficient of determination and the lower the measurement error. Furthermore, to see the high and low correlation using Pearson Product Moment (PPM) (Ridwan 2005: 138)

Validity of Measurement Tools

This study uses a questionnaire to collect research data, and to determine the validity index of the

questionnaire, Pearson's product moment correlation formula is used. Manually the validity of the

measuring instrument is known by correlating the scores of each item. Validity or correlation is declared valid if it has a correlation value of r count greater than r standard. The r score is seen from the r table in the statistical table. The value of r will depend on the number of respondents. To prove the hypothesis, hypothesis testing is carried out. The first is a partial test or t test. The criterion for this test is that Ho is rejected and Ha is accepted if the absolute price t of the test results is greater than the price t contained in the t distribution table. The second hypothesis test is the simultaneous test or F test This test is a test of the regression coefficient together. If F Count is greater than F table (F Count> F Table) there is a real influence of the independent variables together on the dependent variable. Or in other words, in the hypothesis Ho is rejected and Ha is accepted and vice versa if F count < F table then Ho is accepted and Ha is rejected.

Before conducting data analysis, the researcher conducted validity and reliability tests. In this study, content validity was used to determine the extent to which students could grasp the subject matter and the changes in cognitive learning outcomes. To assess the instrument's reliability, the researcher employed the internal consistency test technique. Subsequently, the researcher performed data analysis. There are two types of data analysis used: descriptive data analysis and prerequisite analysis tests. Descriptive data analysis was conducted by observing the teaching and learning process. For the prerequisite analysis, the researcher conducted two types of tests: normality test and hypothesis test.

RESULT AND DISCUSSION

In this study, digital media is not in the form of online media but media designed to use software to replace video media during solar system learning with digital virtual reality media. In contrast to online digital-based learning (Schmid & Petko, 2019). Digital media is more focused on the use of software in the form of virtual reality, measured by the effectiveness of three main factors, namely the effect of learning outcomes, The Minimum Completion Criteria (KKM), and classical completeness. These findings reinforce the results of previous studies, learning media can also have an impact on cognitive, social, and emotional competence (Balkun, 2011). Learning using virtual reality learning media affects students' cognitive (Leder et al., 2019). The effectiveness of learning outcomes is influenced by the goals and knowledge of students. The effectiveness of student knowledge is measured after the teacher conveys a subject matter discussion on learning (Hamdani, 2011). Theoretically, the use of virtual reality media is better than using video media because it is more able to provide a real experience to users that can encourage generative processing. Other things can be explained that they can provide a deeper understanding so that they can produce higher retention and transfer of knowledge. To see these influences, measurements were taken by distributing questionnaires to respondents. However, beforehand, tests will be carried out on the data that has been collected through the analysis of research instruments. Analysis of research instruments is carried out to test whether the instrument used meets the requirements of a good measuring instrument or not. The research instrument is said to be good if the research instrument fulfils valid and reliable properties. Then multiple linear regression tests were carried out to see the effect of each variable. This study uses a questionnaire to collect research data, and to determine the validity index of the questionnaire, Pearson's product moment correlation formula is used. Manually

the validity of the measuring instrument is known

by correlating the scores of each item. Validity or correlation is declared valid if has a calculated r correlation value greater than the standard r. The r score is seen from the r table in the statistical table. The value of r will depend on the number of respondents available. In this study, the number of respondents was 65 respondents, so the correlation level of the r value at the 5% confidence interval must be greater than 0.195. If the r correlation is above 0.195, the measuring instrument can be declared valid and vice versa if it is below 0.195, it means that the measuring instrument is declared invalid. So that the target effectiveness of one of the elements is the cognitive ability of students in the cognitive domain is achieved Interviews were carried out by giving 65 students of class XII SMK Negeri 1 Abung Selatan, North Lampung a questionnaire through a google form link. Students are given 1-2 hours to answer the questionnaire. The questionnaire consists of 12 closed-ended questions in the form of multiple choice. The following are questionnaire questions and respondents' answers (Table 2).

Table 2. Questionnaire questions and respondents' answers

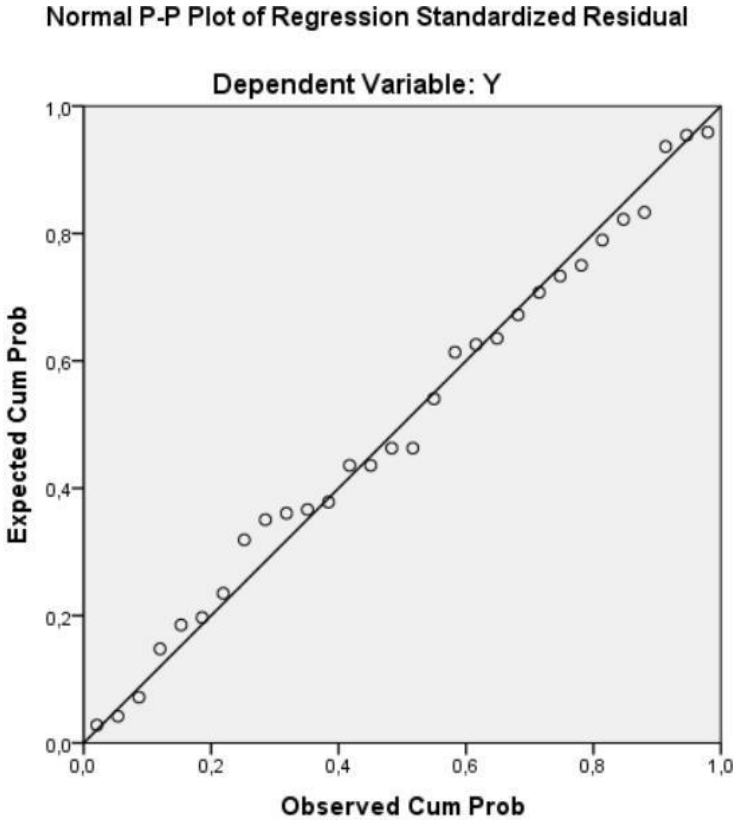
Questions	YesNo
Is Virtual Reality easy to be understood?	89,910,1
Is Virtual Reality easy to be obtained?	88,411,6
Do you spend a lot of Internet data plans when using Virtual Reality ?	78,321,7
Are you easy to contact your teachers or friends when using Virtual Reality?	79,720,3
Does Virtual Reality increase your enthusiasm for learning?	89,910,1
Does Virtual Reality spend a lot of your free time?	94,25,8
Do you want to continuously use Virtual Reality	81,218,8
Is Virtual Reality fun?	88,411,6
Does Virtual Reality increase your willingness to learn?	85,514,5
Do you want Virtual Reality to be used in other subjects?	78,321,7
Is Virtual Reality effective enough?	55,144,9
Do English Teachers use Virtual Reality ?	52,247,8

Table 2 shows that for questions the effectiveness of learning using virtual reality, the majority of respondents stated that "Yes" is 80,9 % and respondents stated that "NO" is 19,9. Based on the answer of questionnaire to measure the effectiveness of learning using virtual reality, it can be concluded that learning English uses virtual reality media effectively on learning outcomes. The effectiveness of cognitive learning outcomes is inseparable from the benefits of using learning media, namely as an intermediary between teachers and students in understanding learning material to be more effective and efficient so that learning material is quickly accepted by students and arouses interest in learning more than the target material. The results of this study reinforce previous research, namely virtual reality media can influence students' cognitive knowledge (Alahabi, 2016; Passig, D. Tzuriel, D. & Eshel-Kedmi, 2016;Webster, 2016).

Based on observations, students are more active in the learning process. During thelearning process students focus on being able to use virtual reality media to minimize sleepiness, discussion, and other activities outside of learning(Y. Li et al., 2022). Students independently explore the material presented in virtual box media. Based on facts in observing learning, students are very interested

and happy to know information content from virtual reality media independently. These observations indicate thatvirtual reality can provide opportunities for students to try without coercion from others(Slater & Wilbur, n.d.). Because the principle of digital media will motivate students to independentlylearn to explore information or find solutions to this task, it shows that students are skilled in usingdigital (Schmid & Petko, 2019).

The results of the normality test can be seen from the Normal P-P Plot image below. The criteria for a (data) residual is normally distributed or not with the Normal P-P Plot approach can be done by looking at the distribution of points in the picture. If the distribution of the dots is close or close to the straight line (diagonal), it is said that the residual (data) is normally distributed, but if the distribution of the dots is away from the line, it is not normally distributed.



The distribution of points from the Normal P-P Plot image above is relatively close to a straight line, so it can be concluded that the residual (data) is normally distributed.

The model reliability test or model feasibility test or more popularly referred to as the F test is the initial stage of identifying whether the estimated regression model is feasible or not. Feasible (reliable) here means that the estimated model is feasible to use to explain the effect of independent variables on the dependent variable. The name of this test is referred to as the F test, because it follows the F distribution whose testing criteria are like One Way Anova. If the value of prob. F count (SPSS output shown in the sig. column) is smaller than the error level (alpha) 0.05 (which has been determined), it can be said that the estimated regression model is feasible, whereas if the prob. F calculated is greater than the error rate of 0.05, it can be said that the estimated regression model is not feasible.

The F test results can be seen in the ANOVAa table below. The prob. F value can be seen in the last column (sig.)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9,869	4	2,467	10,060	,000[b]
	Residual	6,131	25	,245		
	Total	16,000	29			

The prob. F value (sig.) in the table above is 0.000 smaller than the significance level of 0.05, so it can be concluded that the estimated linear regression model is feasible to be used to explain the effectiveness of using virtual reality applications as English learning media(MacIntyre & Charos, n.d.; Mercer, 2011).

Limitations in this study were the minimum number of students in the study, and only use two classes in the study and measurement only in the cognitive domain. Learning achievement was only seen in the cognitive domain, not measuring the attitude of students' skills. The implication of this finding was when conducting research using virtual reality media to increase the number of research subjects by comparing it with other groups(Cravotta, 2010; Kizilcec et al., 2017). In addition to examining other skills such as digital literacy or student communication skills. For future research, it is recommended to conduct a longitudinal study to assess the long-term impact of VR-based learning on English language proficiency and communication skills among hospitality students. Additionally, investigating the effectiveness of tailored language support strategies within VR modules could enhance the learning experience for diverse language proficiency levels. Furthermore, exploring the integration of real-time feedback mechanisms and personalized learning paths could provide insights into optimizing VR-based language learning environments(Kapp & Coné, 2021).

CONCLUSION

This research provides valuable insight into the students of SMK Negeri 1 Abung Selatan, North Lampung, class XI.1, totaling 34 students, and class XI.2, totaling 31 students, a total of 65 students, about VR-based learning in the context of English for Hospitality. Based on the results of the data analysis and discussion, it can be concluded as follows: English learning using Virtual Reality (VR) runs effectively(Chittaro & Ranon, 2007; Solórzano, 2008). This can be seen from the responses of students in the learning process using Virtual. Most of them are interested because it is new to them, fun, easy to understand and access, does not spend a lot of quota, increases the enthusiasm for learning, does not take up a lot of time, increases interest in learning, and is in accordance with previously studied topics. The results revealed that the majority of participants faced minimal challenges when using VR technology; technical issues and language proficiency were minor concerns for some participants. On the positive side, participants appreciated the VR-based learning experience for improving their ability to understand visual content. The novelty and uniqueness of VR, aligned with modern learning trends, was a motivating factor. The realistic experience allowed participants to explore the environment virtually, encouraging a deeper

understanding of the subject. These findings underscore the potential of VR-based learning to improve language acquisition in the hospitality sector(Anthony, 2020). As educators and curriculum developers continue to explore innovative teaching methods, overcoming technical challenges and ensuring language support will be critical for optimal integration. This study contributes to the ongoing conversation about the transformative impact of technology on education, encouraging further research in this promising area. For future research, it is recommended to conduct a longitudinal study to assess the long-term impact of VR-based learning on English language proficiency and communication skills among hospitality students. In addition, investigating the effectiveness of customized language support strategies in VR modules can enhance the learning experience according to language proficiency levels. Moreover, exploring the integration of real-time feedback mechanisms and personalized learning paths can provide insightful benefits for optimizing VR-based language learning environments. This research is still limited to measuring the cognitive domain, with the largest number of samples. Recommendation to educators and researchers, it is advisable to conduct similar research by paying attention to weaknesses or limitations in this study, for example by adding/expanding research samples, measuring students' spatial abilities and memory abilities.

REFERENCE

Abuhassna, S., & Al-Samarraie, H. (2020). Virtual Reality and Augmented Reality Language Learning: A Systematic Review. *Computers in Human Behavior*, *110*, 106380.

Anthony, L. (2020). *English for Specific Purposes: What does it mean? Why is it different? Dept. of Information and Computer Engineering,Faculty of Engineering Okayama University of Science, 1-1 Ridai-cho, Okayama 700, Japan Anthony "at."* https://www.laurenceanthony.net/abstracts/ESParticle.html

Balkun, M. M. (2011). Teaching with Digital Media: Widening the Framework. *Transformations*, *22*(1), 15–24, 143.

Chang, Y. C., Chang, H. L., Hung, Y. H., & Chen, Y. T. (2018). A Study of the Effects of Virtual Reality-Based Personalized Learning Space on English Learning. *Interactive Learning Environments*, *26*(7), 871–885.

Chen, S., & Wang, H. (2021). Teaching Hotel English Communication Skills through Virtual Reality. *Journal of Hospitality, Leisure, Sport & Tourism Education*, *28*, 100356.

Chittaro, L., & Ranon, R. (2007). Web and VR-Based Virtual Museums: How Effective? *International Journal of HumanComputer Interaction*, *22*(3), 59–84.

Cravotta, J. S. (2010). *English for Hospitality and Tourism: A Handbook for Instructors and Curriculum Developers.University of.*

Dascal, J., Reid, M., IsHak, W. W., Spiegel, B., Recacho, J., Rosen, B., & Danovitch, I. (2017). Virtual Reality and Medical Inpatients: A Systematic Review of Randomized, Controlled Trials. *Innovations in Clinical Neuroscience*, *14*(1–2), 14–21.

Dharma, T. P. T. (2023). *Pemanfaatan Teknologi Virtual Reality Pada Pembelajaran Bahasa Inggris.(Internet.* https://www.millealab.com/id/post/pemanfaatan-teknologi-virtual-reality-pada-pembelajaran-bahasa-inggris

Ending, W. W. (2021). *Teori dan Praktik Penelitian Kuantitatif*. Bumi Aksara.

Fominykh, M., Moro, C., Sibilla, M., & Lorenzo, G. (2018). Virtual Reality for Learning: A Comparative Review of Approaches and Platforms. *Proceedings of the European Conference on Games Based Learning*, *1*, 195.

Hadi, S. dan H. (2005). *Metodologi Penelitian Pendidikan*. Pustaka Setia. Hamdani. (2011). *Strategi Belajar Mengajar*. Pustaka Setia.

Indriyani, L. (2019). Pemanfaatan Media Pembelajaran Dalam Proses Belajar Untuk Meningkatkan Kemampuan Berpikir Kognitif Siswa. Prosiding Seminar Nasional Pendidikan, FKIP. *Universitas Sultan Ageng Tirtayasa*, *2*(1), 18 – 25.

Kapp, K. M., & Coné, J. (2021). *What Every Chief Learning Officer Needs to Know about Games and Gamification for Learning*. http://karlkapp.com/articles/.

Kizilcec, R. F., Papadopoulos, K., & Sritanyaratana, L. (2017). Showing Face in Video Instruction: Effects on Information Retention, Visual Attention, and Affect. *Journal of Computer Assisted Learning*, *33*(3), 206–218.

Leder, J., Horlitz, T., Puschmann, P., Wittstock, V., & Schütz, A. (2019). Comparing immersive virtual reality and powerpoint as methods for delivering safety training: Impacts on risk perception, learning, and decision making. *Safety Science*, *111*(July), 271–286. https://doi.org/10.1016/j.ssci.2018.07.021

Leslie, D., & Russell, H. (2016). The importance of foreign language skills in the tourism sector: A comparativestudy of student perceptions in the UK and continental Europe. *Tourism Management*, *27*(4), 1397–1407. https://doi.org/10.1016/j.tourman.

Li, C., Zhu, Y., & Li, J. (2021). The Role of Learners' Perceptions in Foreign Language Learning: A Systematic Review. *Language Teaching Research*, *25*(3), 311–333.

Li, H., & Ma, X. (2017). Effects of virtual reality on English vocabulary learning: A meta-analysis. *ReCALL*, *29*(2), 144–164.

Li, H., Ren, C., & Li, N. (2018). Using Augmented Reality to Enhance the Museum Learning Experience: A Review of Design and Evaluation Frameworks. *Educational Technology & Society*, *21*(3), 165–178.

Li, Y., Ying, S., & Chen, Q. (2022). An Experiential Learning-Based Virtual Reality Approach to Foster Students' Vocabulary Acquisition and Learning Engagement in English for Geography. *Sustainability*, 1–14. https://doi.org/10.3390/su142215359h

Liu, M., Horton, L., Olmanson, J., Toprac, P., & Choi, I. (2017). Learning in 3D Immersive Environments: Outcomes and Opportunities. *Educational Media International*, *54*(4), 263–280.

MacIntyre, P. D., & Charos, C. (n.d.). Personality, attitudes, and affect as predictors of second language communication. *Journal of Language and Social Psychology*, *15*(1), 3–26. https://doi.org/10.1177/0261927X960151001

Mercer, S. (2011). Language Learner Motivation: Insights from the Theory of Positive Disintegration. *Innovation in Language Learning and Teaching*, *5*(2), 153–174.

Othenk. (2008). *Pengertian Efektivitas dan Landasan Teori Efektivitas*. http://literaturbook.blogspot.co.id

Pramasta, R. G., & Y.W.A, W. (2023). Virtual Reality and Language Learning in Hospitality: An Investigation of Students. *Perceptions*, *6*(8), 5647–5652.

Rizqiningsih, S., & Hadi, M. S. (2019). Multiple Intelligences (MI) on Developing Speaking Skills. *Jurnal English Language in Focus (ELIF*, *1*(2), 127–136.

Slater, M., & Wilbur, S. (n.d.). A Framework for Immersive Virtual Environments (FIVE): Speculations on the Role of Presence in Virtual Environments. *Presence: Teleoperators & Virtual Environments*, *6*(6), 603–616.

Solórzano, R. W. (2008). High Stakes Testing: Issues, Implications, and Remedies for English LanguageLearners. *SAGE Journal. First Published June*, *1*.https://doi.org/10.3102/0034654308317845

Sugiono. (2013). *Metode Penelitian Kuantitatif* (dan R. Kualitatif & D. P. Alfabeta, Eds.).

Valmaggia, L. R., Latif, L., Kempton, M. J., & Rus-Calafell, M. (2016). Virtual Reality in the

Psychological Treatment for Mental Health Problems: An Systematic Review of Recent Evidence. *Psychiatry Research*, *236*, 189–195.