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Utilization of Virtual Reality Chat as A Means of Learning Communication in The Field of Education

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ABSTRACTS

This paper aims to introduce the VRChat (Virtual Reality Chat) application as a new learning communication tool, this application can be used for various things, from a place to talk, a place to study and even a place to play. The advantage of VRChat is that we can interact like in the real world, because this application implements a 3D system. As for the background of this writing because learning media such as zoom and google meet have become mainstream media. We have been doing learning processes with those media since the COVID-19 pandemic in 2020. To support the review that will be carried out, we use descriptive quantitative methods. Questionnaires are used as a data collection method and are supported by literature review. Questionnaires are distributed to 93 communication science student respondents from Universitas Komputer Indonesia. The results of this study indicate that the VRChat application can have an influence on the quality of learning communication and provide a more realistic learning communication experience. This study concludes that VRChat can improve the quality of learning communication for students. This research is expected to assist the learning process in improving the quality of learning experience.

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1. INTRODUCTION

In today's era long-distance communication is growing rapidly, and in the current epidemic conditions, people often use personal long-distance communication media. Zoom and google meet have become part of our daily lives, especially for students. The development of communication technology continues to this day, and along with the emergence of new ways, we can meet in other ways, one of which is the development of virtual reality which is currently being widely discussed (Muhson, 2010).

Virtual Reality is an artificial reality or virtual reality. This technology allows users to interact with a computer-simulated environment, a real environment in the real world copied or a fictional environment existing in the imagination (Mandal, 2013; Wilson *et al*., 1997; Velev & Zlateva, 2017; Gorini & Riva, 2008). Current virtual reality environments generally provide a visual experience, displayed on a computer screen or via a stereoscopic viewer, but some simulations include additional sensory information, such as sound through loudspeakers (Aulia, 2017).

Communication is part of basic human activities, there is no human who has never been involved in a communication. In human life communication is an important element, because communication makes humans connected to each other (Aakhus, 2007). In general, communication can be defined as the process of delivering information from a communicator to the communicant through a medium, either verbally or nonverbally (Inah, 2013).

Learning is a process of interaction occurring between students and educators as a source of learning in a learning environment (Jones & Jo, 2004; Lebenicnik *et al*., 2015). In general, learning is assistance taught by educators with the aim that students gain knowledge and knowledge, master a skill, as well as form attitudes and beliefs in students. Learning has the intention to cause learning activities, support learning activities, and maintain internal processes that exist in a learning process (Pane & Dasopang, 2017).

Learning communication is one of the important things in the teaching and learning process. Because in the learning process, the transmission of learning is very important (Kristiawan & Muhaimin, 2019). In addition, communication can bring students closer to educators to involve students in learning. One of the obstacles in the world of education is the lack of communication in the learning process, so that these obstacles will result in the low quality of education.

Communication skills that are very important if not handled properly will have a negative impact on children's development in expressing opinions in the future. This condition occurs because communication is very important so that students can easily express opinions. Children are asked to express opinions to develop or accept what is communicated in the teaching and learning process (Falah, 2015).

The field of education plays an important role in human life because education is a tool that can be used to create competent and quality human resources in this field. Education as a strategic tool to improve the human quality of a nation grows the character of the community of a nation, so that the progress of a nation can be measured by the progress of its education.

The education sector is the main key to successful development in various fields. Therefore, efforts to improve the quality of education need to be improved through education. From elementary school to university. the success of educational goals This is determined by the teaching process that students go through. Students will learn Experiencing changes in knowledge, understanding, skills, values and attitudes. Improving the quality of education and developing the learning process is a continuous concern. One

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student with another student has a different level of absorption of learning materials, requiring teachers to innovate in learning, not only presenting the material, but also using the right model for students to understand (Pane & Dasopang, 2017).

With the implementation of the virtual reality chat application as a new learning method, it is hoped that it can help maximize the effective learning communication process, so as to improve the quality of communication and learning in education. This study aims to determine the use of virtual reality chat as a means of learning communication (Inah, 2013). We used a descriptive quantitative approach with a questionnaire as a data collection technique and supported by a literature study. It is hoped that this research can be useful as an insight for the world of education to improve the quality of better learning.

2. METHODS

This research uses descriptive quantitative methods as well as questionnaires and literature review as data collection methods. We take a case study on Virtual Reality as a means of learning communication in communication science students at the Indonesian Computer University. The questionnaire was chosen as the data collection method.

2.1. Question List

Stratified random sampling technique was used with two criteria; age and class. Distributed to 91 respondents with an age range of 18 to 24 years and communication science students who are still active, respondents were determined using the Taro Yamane formula. Young adults were chosen as respondents because they are more familiar with technology and also still carry out learning activities as students. Virtual Reality focuses their use on young adults. They are a valuable target for the technology and telecommunications industry with the impact of their use. With this, they can influence their online communication preferences and learning communication activity habits.

2.2. Taro Yamane Formula

According to Fitriawati and Lestari (2022) this technique is used when the population has members/elements that are not homogeneous and proportionally stratified. Meanwhile, stratified random sampling is sampling of population members randomly and proportionally stratified (Fitriawati & Lestari, 2022; Soegoto *et al*., 2022). This sampling is carried out if the members of the population are heterogeneous (not the same). By using the formula from Taro Yamane at the 10% Precision, it is obtained in Equation [1]:

$$n = \frac{N}{N.d^2+1} \quad (1)$$

where n = number sample, N = number population, and d^2= precision (et 10%).

This shows the classification of the number of active students of communication science at the Indonesian computer university as many as 1021 students. Based on the equation and the precision level of 10%, we get a sample of 91 respondents (Tarmawan *et al*., 2021; Febriansyah *et al*., 2021). From the calculation, the number of samples is 91 respondents. Then the number of each sample according to the teacher and student is determined by proportionate random sampling with the Equation [2].

$$ni = \frac{Ni}{N}.n \quad (2)$$

where Ni= number sample by stratum, n = number sample whole, Ni = amount population by stratum, and N = number population whole (Febriansyah *et al*., 2021). The classification of the force and number of samples can be shown in **Table 1**.

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Table 1. Number of Samples.

NO	Force	Number of Samples
1	2015	0.3 = 1
2	2016	1.3= 1
3	2017	3.9= 4
4	2018	22.9= 23
5	2019	19.9= 20
6	2020	24.3= 24
7	2021	18.1= 18
Number of Samples		91

3. RESULTS AND DISCUSSION

3.1. VR Chat Can Be Used as A Means of Learning Communication

The **Table 2** shows that VR chat can be used as a means of learning communication. Respondents gave positive statements about the Intensity of Using Virtual Reality Chat Information Technology as a Learning Communication Tool. Based on the table above, it can be concluded that as many as 35 or 38% of respondents stated strongly agree, 30 or 33% of respondents agreed. While respondents who gave negative statements only 20 or 22% of respondents said they did not agree and 6 or 7% of respondents said they strongly disagreed.

Table 2. The Percentage of Respondent Scale.

NO	Scale	Amount Respondent	Percentage
1	Strongly Agree	35	38
2	Agree	30	33
3	Not Agree	20	22
4	Very No Agree	6	7
	Total	91	100

3.2. VR Chat Provides Convenience as A Medium for Learning Communication

The **Table 3** shows that VR chat provides convenience as a medium for learning communication. Respondents gave positive statements about the Ease of Use of Virtual Reality Chat Information Technology as a Learning Communication Tool. Based on the table above, it can be concluded that as many as 40 or 44% of respondents stated strongly agree, 30 or 33% of respondents agreed. While respondents who gave negative statements only 13 or 14% of respondents said they did not agree and 8 or 9% of respondents said they strongly disagreed.

Table 3. The Percentage of Respondent Scale.

NO	Scale	Amount Respondent	Percentage
1	Strongly Agree	40	44
2	Agree	30	33
3	Not Agree	13	14
4	Very No Agree	8	9
	Total	91	100

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3.3. VR Chat is An Efficient Learning Communication Medium

The **Table 4** shows that VR chat is an efficient learning communication medium. Respondents gave negative statements about the Efficiency of Using Virtual Reality Chat Information Technology as a Learning Communication Tool. Based on the table above, it can be concluded that as many as 7 or 8% of respondents stated strongly agree, 14 or 15% of respondents agreed. While respondents who gave negative statements as many as 33 or 36% of respondents said they did not agree and 37 or 41% of respondents said they strongly disagreed.

Table 4. The Percentage of Respondent Scale.

No	Selection Scale	Amount Respondent	Percentage
1	Strongly Agree	7	8
2	Agree	14	15
3	Not Agree	33	36
4	Very No Agree	37	41
	Total	91	100

3.4. You can Understand the Learning Material When You Have Followed the VR Chat Method

The **Table 5** shows that respondent can understand the learning material when they have followed the VR chat method. Respondents gave negative statements about the use of VR Chat on effective learning communication for the education sector. Based on the table above, it is concluded that as many as 18 or 20% of respondents stated strongly agree, 22 or 24% of respondents agreed. Meanwhile, 38 or 42% of respondents who gave negative statements said they disagreed and 13 or 14% of respondents stated that they strongly disagreed.

Table 5. The Percentage of Respondent Scale.

No	Selection Scale	Amount Respondent	Percentage
1	Strongly Agree	18	20
2	Agree	22	24
3	Not Agree	38	42
4	Very No Agree	13	14
	Total	91	100

3.5. You Like Study Using VR Chat

The **Table 6** shows that respondent like study using VR chat. Respondents gave positive statements about the enthusiasm for learning using VR Chat. Based on the table above, it can be concluded that as many as 54 (60%) respondents stated strongly agree and 10 (11%) respondents agreed, while as many as 24 (26%) respondents did not agree with this learning model, and 3 (%) respondents strongly disagreed.

Table 6. The Percentage of Respondent Scale.

No	Selection Scale	Amount Respondent	Percentage
1	Strongly Agree	54	60
2	Agree	10	11
3	Not Agree	24	26
4	Very No Agree	3	3
	Total	91	100

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3.6. You Believe Learning Using VR Chat Can Improve the Quality of Your Learning

The **Table 7** shows that respondent believe learning using VR chat can improve the quality of learning. Respondents gave positive statements about the use of VR Chat on good student learning outcomes for the education sector. A total of 32 (35%) respondents stated strongly agree and 28 (31%) agreed, while as many as 20 (22%) people disagreed and 11 (12%) strongly disagreed.

Table 7. The Percentage of Respondent Scale.

No	Selection Scale	Amount Respondent	Percentage
1	Strongly Agree	32	35
2	Agree	28	31
3	Not Agree	20	22
4	Very No Agree	11	12
	Total	91	100

4. CONCLUSION

Based on the survey table above, VR Chat can be used as a learning medium and provides convenience as information advice, this is evidenced by tables 3.1 and 3.2 which show positive statements from the respondents.

However, in terms of efficiency and understanding of VR chat learning materials, it is considered less effective because the survey respondents showed negative statements in table 3.3 and table 3.4. While in Tables 3.5 and 3.6 Respondents indicate that they prefer the learning method using VR Chat and they believe that VR Chat can improve the quality of their learning.

Based on the discussion above. From the results of the study, it can be concluded several things related to the use of Virtual Reality Chat as a means of student communication, among others.

(i) Students use VR Chat as a means of communication for their learning.
(ii) The benefits of VR Chat in supporting lectures are in the good category, meaning that students believe that the more information they get, the higher the level of quality of learning that will be obtained.

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6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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