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VIRTUAL REALITY EDUCATION IN ERA 5.0

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Abstract: Advances in technology and information that are increasingly fast must be accompanied by the current quality of education so that they are able to answer the challenges of the times and are also ready to compete in the international realm. Because in fact, rapid technological progress is not enough to build progress in a country without being accompanied by the quality of its human resources so that poverty and various other social problems are resolved. Therefore, researchers want to find out more about virtual reality education models in the 5.0 era. The purpose of this study is to determine the application of virtual reality models in the world of education as a form of adaptation from the 5.0 era. The research method used is descriptive qualitative with data collection techniques through observation, interviews and documentation to 40 respondents at school X. The data obtained will be analyzed in depth, so that it is known that the results of the study show that the virtual reality model can improve students' understanding in learning with students' KKM scores. which was previously achieved by 25% of students to 90% of students who completed the KKM. In addition, learning is also more fun and has a superior human sense and focuses on the quality of human resources which is considered through the quality of the graduates of school X.

Keywords: virtual reality model, education and era 5.0.

INTROIDUCTION

Rapid technological progress (Ngafifi, 2014) has pushed society into the 4.0 era where technology dominates the world and this period is called the industrial revolution (Prasetyo & Trisyanti, 2018) (Purba et al., 2021). This can be seen from the number of information technologies that have begun to help humans (Rohida, 2018) (Harum, 2021) in various activities of daily life.

Nevertheless, technological advances that are not accompanied by qualified human resources are feared to be of little use (Dwiyama, 2021) which means and actually causes various disputes and misgivings between countries. Therefore, the quality of human resources where humans become more loving and civilized must be encouraged in the midst of globalization.

This opinion was pioneered by Japan, which is referred to as society 5.0 (Nastiti & Ni'mal'Abdu, 2020). Where in this era humans are made aware of themselves as social beings (Mardani & Wirawan, 2018) (Darmalaksana & Ratnasih, 2022) which of course need each other from one another through social interaction is expected to be able to fix the poor quality of human resources. so that prosperity becomes a reality, not just dreams and fantasies.

In order to answer the challenges of the times, the education sector as the front line in realizing a quality generation of the nation (Hartanto, 2015) which is one of them in the 5.0 era (Sabri, 2019), it is necessary to make improvements in learning so that students become more enthusiastic and be able to understand and apply the knowledge they have.

Based on observations at school X, it is known that the majority of learning, especially social studies still uses conventional methods so that students are seen who are sleepy, bored, playing alone, and telling stories with their friends. Finally, learning outcomes are not optimal and there are still many students who score below the KKM. If this continues, it is feared that it will affect the quality of the nation's generation as a human being who will live in era 5.0 where this era prioritizes human quality so that they have creativity and the ability to lift themselves from the poverty line (Suprayitno, 2021).

Virtual reality is one of the models that can be used in the world of education through a learning process that tries to give a real impression to students where the impression is displayed virtually ((Dharma et al., 2018) (Aulia, 2017) as a form of utilizing Information technology is increasingly developing to produce quality and meaningful learning (Hermawan et al., 2020).

Currently, many students have gadgets and can see the whole world in the palm of their hands. Therefore, learning must also adapt to students' habits so that the knowledge given can be understood optimally but still emphasizes that direct human interaction is important so that every student can adapt well in era 5.0 (Teknowijoyo & Marpelina, 2021).

Based on the explanation above, the researcher wants to know more about the Virtual reality model of education in the 5.0 era. The purpose of this study is to determine the implementation of virtual reality models in learning so that they are able to create a generation of nations that

can adapt well in the era of society 5.0.

METHODS

The type of research used is descriptive qualitative where the research results will provide information related to the research objectives (Salim, 2019). Data collection is done by means of observation, documentation, and interviews then the data obtained will be analyzed in depth so that the results of the research are known. The research was conducted at School X with 40 respondents. The research flow is as follows:
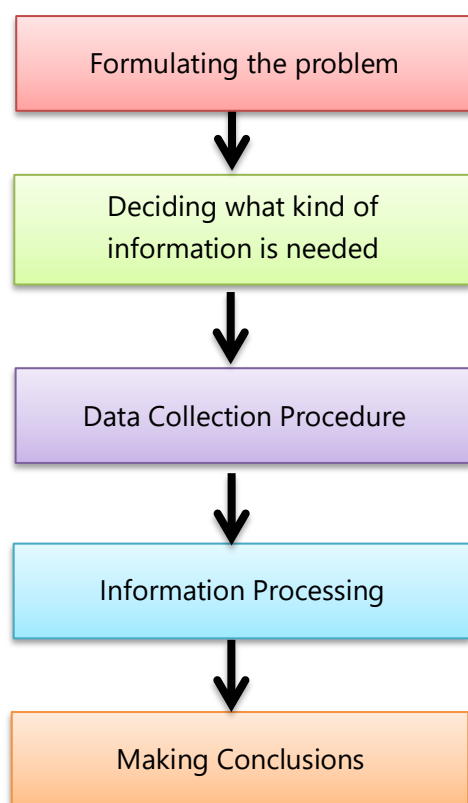
Formulating the problem

Deciding what kind of information is needed

Data Collection Procedure

Information Processing

Making Conclusions

Figure 1: Research flow

RESULTS AND DISCUSSION

Virtual reality is one of the learning models within the scope of education that is quite easy to do because currently a

variety of media and technological advances can be implemented and used anytime and anywhere (Agustian & Salsabila, 2021). Of course, in this case it requires teacher creativity in carrying out learning because no matter how good the material is delivered if it is not accompanied by the right learning model, the student's understanding will be less than optimal as evidenced by student learning outcomes below the KKM score.

In the learning carried out at school X, especially social studies learning, it was found that 75% of students did not complete the KKM. So the number of defendants who are subject to KKM is only 25% or only 10 people. After virtual reality was implemented, data was obtained that 90% of students had completed the KKM and another 10% did not complete the KKM because when virtual reality was implemented they did not follow the learning process until it was finished because of family interests. Data on student learning outcomes are as follows with the KKM IPS school X of 75.

Table 1.

Student learning outcomes data

No	Results before virtual reality	Results after virtual reality
1	75	80
2	67	77
3	68	78
4	67	77
5	68	76
6	69	76
7	56	77
8	67	75
9	66	76
10	78	76
11	63	79

12	64	80
13	56	68
14	76	85
15	58	72
16	80	90
17	57	80
18	76	82
19	66	79
20	79	85
21	76	88
22	65	78
23	65	76
24	67	80
25	68	78
26	78	86
27	53	73
28	62	79
29	79	90
30	56	69
31	67	78
32	76	86
33	64	79
34	65	75
35	66	76
36	68	78
37	66	80
38	65	80
39	55	79
49	65	78
Amount	2682	3154
Average	67.05	78.85

If depicted through the average graph as follows:

Comparison of Learning Outcomes before and After the Implementation of Virtual Reality
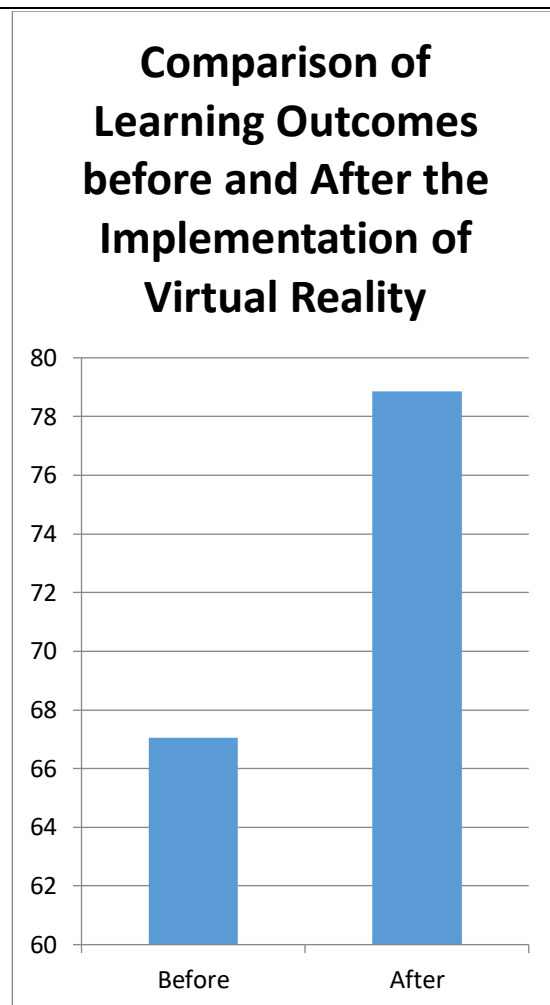
Figure 2: Comparative graph of learning outcomes before and after the application of virtual reality in Social Studies learning at School X.

The data above shows the progress of learning outcomes from before using the virtual reality model to after using the virtual reality model. In addition, the teacher is also easier to carry out learning between classes because he does not always write and explain one by one, but it is enough to convey it through virtual reality learning media then he reinforces important material so that the impressions that students have are strong or not easy to forget.

This is because, if material reinforcement is not carried out, students are worried that students will forget and the teacher will have to repeat the previous learning, which means that the use of time becomes ineffective and inefficient.

The results of the interview show that students enjoy learning with virtual reality models as expressed by SK that he feels happy because he can see various places in real even though he is not directly there. This is in line with what was conveyed by ZK that he also became more aware of many things in real as if he was in the described place even though it was only limited to virtual knowledge. However, many students feel satisfied and quite happy because learning becomes more interesting.

The results of the observations showed that students were very enthusiastic about making visual observations and listening to auditory explanations of the impressions delivered by the teacher. They try to observe with focus so as to gain understanding as the teacher wants to convey.

The tools used in this model are quite easy, for example, LCD projector, laptop, and speakers. However, if the school does not have an LCD projector, it can use other media as a form of virtual reality such as pictures, stories, and so on.

So there is no reason not to provide interesting and fun learning for students because after all the state of the school, as long as the teacher has high creativity, the virtual reality model can still be applied.

With increasing learning outcomes, students' understanding also increases. This situation contributes to the application of knowledge in everyday life so that students can adapt to the 5.0 era and be able to compete in the international realm where students are not only smart in IT but also smart in social.

Social society is a real life for all humans, including students. If students do not have high social values, the peace of life will no longer be felt. In fact, peace, security and comfort can be obtained if humans have the ability to interact with fellow humans.

Thus, it can be seen that the virtual reality model in the world of education can help realize educational goals as stated in Law No. 20 of 2003 concerning the National Education System. Besides that, students as the next generation of the nation are also able to adapt and compete in the 5.0 era where prosperity is not only a dream but as a reality.

CONCLUSIONS

Education is the front line in shaping the quality of human resources. For this reason, education must be up-to-date and able to adapt to the times so that the graduates produced become more qualified and able to compete in the national and international spheres.

Improving the quality of human resources through education is proven to be able to be done when learning with a virtual reality model where the application of this model can improve student learning outcomes which initially only 25% completed the KKM to 90% of students completed the KKM. With this, the virtual reality model can increase the

understanding of 65% of students.

The increase in learning outcomes is one proof that students' understanding is getting better without having an understanding, students will find it difficult to achieve the predetermined KKM value.

With this, the researcher wants to give advice to all teachers to continue to improve their quality and creativity in responding to world developments so that graduates from schools or education fields are able to adapt well and quickly in the development of the world through various learning models, one of which is virtual reality models. The researcher also hopes that this research can be used as a reference source for the next researchers.

REFERENCES

Agustian, N., & Salsabila, U. H. (2021). Peran Teknologi Pendidikan dalam Pembelajaran. *Islamika*, *3*(1), 123–133.

Aulia, D. R. (2017). Penerapan Teknologi Virtual Reality Pada Simulasi Sistem E-Ticketing Di Stasiun Kereta Api Bogor. *Jurnal Ilmiah Teknologi Dan Rekayasa*, *22*(1).

Darmalaksana, W., & Ratnasih, T. (2022). Realitas Masyarakat 5.0 Perspektif Pendidikan Modern KH. Zainuddin Fananie. *Journal of Innovation Research and Knowledge*, *1*(12), 1559–1566.

Dharma, K. Y., Sugihartini, N., & Arthana, I. K. R. (2018). Pengaruh penggunaan media virtual reality dengan model pembelajaran klasikal terhadap hasil belajar siswa di TK Negeri Pembina Singaraja. *Jurnal Pendidikan Teknologi Dan Kejuruan*, *15*(2).

Dwiyama, F. (2021). Pemasaran Pendidikan Menuju Era Revolusi Industri 5.0. *Adaara: Jurnal Manajemen Pendidikan Islam*, *11*(1), 24–34.

Hartanto, S. B. (2015). Pengembangan Sumber Daya Manusia (Sdm) Pendidikan. *Intelegensia: Jurnal Pendidikan Islam*, *3*(2), 19–27.

Harum, S. (2021). Pembelajaran Di Era 5.0. . *Prosiding Seminar Nasional Pendidikan Dasar "Merdeka Belajar Dalam Menyambut Era Masyarakat 5.0*, 265-276.

Hermawan, I., Supiana, S., & Zakiah, Q. Y. (2020). Kebijakan Pengembangan Guru Di Era Society 5.0. *JIEMAN: Journal of Islamic Educational Management*, *2*(2), 117–136.

Mardani, I., & Wirawan, R. (2018). Pengaruh Bentuk Model Virtual Reality Terhadap Lama Durasi Penggunaan Dan Aktivitas Pengguna. *Informatik: Jurnal Ilmu Komputer*, *14*(1), 25–31.

Nastiti, F. E., & Ni'mal'Abdu, A. R. (2020). Kesiapan pendidikan Indonesia menghadapi era society 5.0. *Jurnal Kajian Teknologi Pendidikan*, *5*(1), 61–66.

Ngafifi, M. (2014). Kemajuan teknologi dan pola hidup manusia dalam perspektif sosial budaya. *Jurnal Pembangunan Pendidikan: Fondasi Dan Aplikasi*, *2*(1).

Prasetyo, B., & Trisyanti, U. (2018). Revolusi industri 4.0 dan tantangan perubahan sosial. *IPTEK Journal of Proceedings Series*, *5*, 22–27.

Purba, N., Yahya, M., & Nurbaiti, N. (2021). Revolusi Industri 4.0: Peran Teknologi dalam Eksistensi Penguasaan Bisnis dan Implementasinya. *Jurnal Perilaku Dan Strategi Bisnis*, *9*(2), 91–98.

Rohida, L. (2018). Pengaruh era revolusi industri 4.0 terhadap kompetensi sumber daya manusia. *Jurnal Manajemen Dan Bisnis Indonesia*, *6*(1), 114–136.

Sabri, I. (2019). Peran pendidikan seni di era society 5.0 untuk revolusi Industri 4.0. *Prosiding Seminar Nasional Pascasarjana (PROSNAMPAS)*, *2*(1), 342–347.

Salim, H. (2019). *Penelitian Pendidikan: Metode, Pendekatan, dan Jenis*. Kencana.

Suprayitno, E. (2021). Strategi Meningkatkan Citra Pembelajaran Ips Yang Bermakna Menuju Era Society 5.0. *Sosial Khatulistiwa: Jurnal Pendidikan IPS*, *1*(1), 19–28.

Teknowijoyo, F., & Marpelina, L. (2021). Relevansi Industri 4.0 dan Society 5.0 Terhadap Pendidikan Di Indonesia. *Educatio*, *16*(2), 173–184.