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The Influence of Augmented Reality Learning Media on Students' Interest and Learning Outcomes in the IPAS Subject at MIN 1 Tulungagung

Azela Khoirun Munadhifah*[1], Moh. Arif[2]
[1,2]UIN Sayyid Ali Rahmatullah, Indonesia
azeladhifah24@gmail.com1*, arif.mh82@gmail.com[2]

Abstrak: Pemanfaatan media pembelajaran khususnya media pembelajaran berbasis teknologi seperti Augmented Reality pada mata pelajaran IPAS masih sangat terbatas. Sehingga, hal tersebut berpengaruh terhadap minat belajar siswa yang rendah dan hasil belajar siswa yang cenderung belum maksimal. Penelitian ini bertujuan untuk (1) mengetahui pengaruh media pembelajaran Augmented Reality terhadap minat belajar siswa pada mata pelajaran IPAS di MIN 1 Tulungagung, (2) mengetahui pengaruh media pembelajaran Augmented Reality terhadap hasil belajar siswa pada mata pelajaran IPAS di MIN 1 Tulungagung, dan (3) mengetahui pengaruh media pembelajaran Augmented Reality terhadap minat dan hasil belajar siswa pada mata pelajaran IPAS di MIN 1 Tulungagung. Penelitian ini menggunakan metode kuantitatif eksperimen. Populasinya terdiri dari 80 siswa sedangkan sampelnya terdiri dari 52 siswa. Teknik pengumulan data melalui angket, tes, dan dokumentasi. Analisis data menggunakan uji normalitas, homogenitas, dan hipotesis. Hasil penelitian menunjukkan bahwa: (1) ada pengaruh signifikan penggunaan media pembelajaran Augmented Reality terhadap minat belajar siswa pada mata pelajaran IPAS di MIN 1 Tulungagung dengan nilai signifikansi sebesar

0,000 < 0,05, (2) ada pengaruh signifikan penggunaan media pembelajaran Augmented Reality terhadap hasil belajar siswa pada mata pelajaran IPAS di MIN 1 Tulungagung dengan nilai signifikansi sebesar 0,000 < 0,05, dan (3) ada pengaruh signifikan penggunaan media pembelajaran Augmented Reality terhadap minat dan hasil belajar siswa pada mata pelajaran IPAS di MIN 1 Tulungagung dengan nilai signifikansi sebesar 0,000 < 0,05.

Kata Kunci: *Augmented Reality, IPAS, Minat Belajar*

Abstrak: The use of learning media, especially technology-based learning media such as Augmented Reality in science and science subjects, is still very limited. Thus, this affects students' low interest in learning and student learning outcomes that tend to be not optimal. This study aims to (1) determine the influence of Augmented Reality learning media on students' learning interest in science subjects in MIN 1 Tulungagung, (2) find out the influence of Augmented Reality learning media on student learning outcomes in science subjects in MIN 1 Tulungagung, and (3) find out the influence of Augmented Reality learning media on students' interest and learning outcomes in social science subjects at MIN 1 Tulungagung. This study uses a quantitative method of experiments. The population consists of 80 students while the sample consists of 52 students. Data collection techniques through questionnaires, tests, and documentation. Data analysis uses normality, homogeneity, and hypothesis tests. The results of the study showed that: (1) there was a significant influence of the use of Augmented Reality learning media on students' interest in learning in science subjects in MIN 1 Tulungagung with a significant value of 0.000 < 0.05, (2) there was a significant influence on the use of Augmented Reality learning media on student learning outcomes in the science

subject at MIN 1 Tulungagung with a significance value of 0.000 < 0.05, and (3) there was a significant influence of the use of Augmented Reality learning media on student interest and learning outcomes in the science subject at MIN 1 Tulungagung with a significance value of 0.000 < 0.05.

Keywords*: Augmented Reality, IPAS, Learning Interest*

INTRODUCTION

Education is one of the most important things that everyone should obtain. Education is a process carried out by every individual and is tailored to the physical and mental development of that person (Sahara, 2021) . Education is also a part of national development efforts aimed at improving the welfare of human life through the development of superior human resources in order to face a highly competitive future (Wijaya et al., 2016) .

When compared to other countries worldwide, education in Indonesia is classified as having relatively low quality. According to the 2022 PISA (Program for International Student Assessment) data, Indonesia ranks 63rd out of 73 countries (OECD, 2023) . This means that Indonesia is among the ten countries with the lowest quality of education globally. The factors contributing to the low quality of education in Indonesia include low teacher quality, poor physical facilities, low student achievement, lack of equitable access to education, and the relevance of education to current needs (Elvira, 2021) .

One of the efforts that can be made to improve the quality of education in Indonesia is through the use of learning media that

aligns with the times. The rapid advancement of technology has significantly impacted every aspect of human life, including education. One of these impacts can be seen in the rapid development of technology and information. In education, technological advances must be utilized as learning tools, such as learning media that can assist teachers in the learning process. By leveraging technology as a learning medium, new experiences can be created for students who are bored with conventional learning models (Hanannika & Sukartono, 2022) .

The use of technology-based learning media can be applied to the IPAS subject. IPAS (ScienceNatural and Social Sciences) is a combination of science and social studies subjects taught at the elementary school level in the Merdeka Curriculum. Through IPAS learning, it is expected to help students ignite their curiosity about events occurring in their surroundings. This curiosity can lead to an understanding of how the universe works and interacts with human life on this earth (Sartika et al., 2023) . Based on this, in IPAS learning activities, it is essential to have learning media that can support students in engaging in activities that stimulate their curiosity, which in turn can increase interest and learning outcomes.

One of the technology-based learning media that teachers can use to enhance student interest in the IPAS subject is Augmented Reality learning media. Augmented Reality is a term in the realm that blends the real world and the virtual world, programmed through computers, minimizing the boundaries between them

(Riskiono et al., 2020) . The application of Augmented Reality media is also relatively easy, as it can be used through mobile phones, requiring minimal costs. Through Augmented Reality learning media, it will be easier for teachers to visualize IPAS learning material in 3D, making the learning process more interesting for students.

In addition to attracting student interest, Augmented Reality learning media can also improve student learning outcomes in the IPAS subject. The use of Augmented Reality media provides students with opportunities to hone critical thinking skills, imagination, and stimuli, thus improving their learning outcomes (Danti et al., 2023) . Therefore, the utilization of Augmented Reality learning media can have a positive impact on increasing student learning outcomes, as the presented learning materials become more engaging.

Based on observations in the fourth grade at MIN 1 Tulungagung, it was found that the use of learning media, particularly technology-based learning media, in the IPAS subject is still very limited. This affects the low interest in learning, as some students do not focus on paying attention to the teacher's explanations during the learning process. Additionally, this also impacts the learning outcomes of fourth-grade students in the IPAS subject, which tends to be suboptimal, as some students do not meet the Learning Objective Achievement Criteria (KKTP), resulting in an average exam score of 65 (Observation, 2024).

Previous research conducted by Maya Nuraini Faiza, Muhammad Turhan Yani, and Agus Suprijono(Faiza et al., 2022) in the journal * Basicedu * explains that the use of Augmented Reality learning media in the learning process can make students more active and less prone to boredom, thereby improving their learning outcomes. Another study by Fakhrur Rozi et al. (2024) in the journal *Pendidikan Tambusai * also highlights that the application of Augmented Reality-Based Learning (ARBL) increases students' interest and achievement in learning. Additionally, research by Mustiranda Ginting and Husna Parluhutan Tambunan (2023) in the journal *IJMS: Indonesian Journal of Mathematics and Natural Science* reveals that the use of Augmented Reality-based media significantly impacts student learning outcomes, showing a substantial difference between the average scores before and after the application of the media.

Based on the above explanation, it is evident that in the learning process, teachers should utilize learning media, such as technology-based learning media, to increase student interest in learning, which will, in turn, positively impact their learning outcomes. Therefore, the researcher is interested in conducting a study entitled "The Influence of Augmented Reality Learning Media on Students' Interest and Learning Outcomes in the IPAS Subject at MIN 1 Tulungagung

METHOD

The research approach in this study is a quantitative approach in the form of an experimental design. Experimental

research is conducted in a planned manner by the researcher by providing specific treatments to the research subjects to observe the effects of those treatments (Hardani et al., 2020) . The research design used is a Quasi-Experimental Design, specifically the Nonequivalent Control Group Design. In this design, there are two groups that are randomly selected: the first group serves as the experimental group because it received the treatment, while the second group serves as the control group because it did not receive the treatment. However, both groups were given a pretest and a posttest. The use of a pretest in this design is advantageous for measuring the initial equivalence between the two groups, providing a basis for comparing the impact of the treatment given (Rifka Agustianti et al., 2022).

Nonequivalent Control Group Designisas:

Table 1. *Nonequivalent Control Group* Design

Group	***Pretest***	Treatment	***Posttest***
R1	O1	X	O2
R2	O2	-	O4

RESULTS AND DISCUSSION

The validity test results, with the number of respondents (N) = 28-2 = 26 and a significance level of 5%, indicate that the instrument is declared valid if the minimum value of the r-table is 0.374. Based on 20 items of questions, 15 of them have an r-count value greater than the r-table value, making them valid, while 5 of them have an r-count value less than the r-table value, making them invalid. Therefore, there are 15 questions that will be used

in the questionnaire to assess students' interest in learning in the experimental and control classes.

The validity test results, with the number of respondents (N) = 28-2 = 26 and a significance level of 5%, indicate that the instrument is declared valid if the minimum r-table value is 0.374. Based on 25 items of questions, 20 of them have an r-count value greater than the r-table value, making them valid, while 5 have an r-count value less than the r-table value, making them invalid. Therefore, there are 20 questions that will be used in the test to assess students' study results in the experimental and control classes.

Based on the normality test output using the Kolmogorov-Smirnov test, the table above shows that the significance value for class IV-A (the experimental class) is greater than 0.05, specifically 0.164. Similarly, the significance value for class IV-C (the control class) is also greater than 0.05, specifically 0.117. Therefore, based on the normality test results, the questionnaire data on students' interest in learning in both classes is normally distributed.

Based on the normality test output using the Kolmogorov-Smirnov test, the table above shows that the significance value of the posttest data for class IV-A (the experimental class) is greater than 0.05, specifically 0.137. Additionally, the significance value of the posttest data for class IV-C (the control class) is also greater than 0.05, specifically 0.151. Therefore, based on the normality test results, the posttest data on students' study results in both classes is normally distributed.

Based on the homogeneity test output, the significance value is greater than 0.05, specifically 0.175. Therefore, the results of the homogeneity test show that the variation between the experimental class and the control class is homogeneous.

Based on the homogeneity test output, the significance value is greater than 0.05, specifically 0.127. Therefore, the results of the homogeneity test show that the variation between the experimental class and the control class is homogeneous.

The first hypothesis was tested using the t-test in the form of an independent sample t-test with the assistance of SPSS 29 to determine the effect of the Augmented Reality learning media on students' interest in learning.

Based on the output of the independent sample t-test in the table above, the significance value (2-tailed) is less than 0.05, specifically 0.000. Additionally, with a sample size of 52 and a t-table value of 1.675, the t-count value is greater than the t-table value, amounting to 12.736. Therefore, based on this test, it can be stated that Hypothesis One is accepted. This means that there is an influence of Augmented Reality learning media on students' interest in science lessons at MIN 1 Tulungagung.

Based on the output of the independent sample t-test in the table above, the significance value (2-tailed) is less than 0.05, specifically 0.000. Additionally, with a sample size of 52 and a t-table value of 1.675, the t-count value is greater than the t-table value, amounting to 6.307. Therefore, based on this test, it can be stated that Hypothesis Two is accepted. This means that there is an influence of Augmented Reality learning media on students' study results in science lessons at MIN 1 Tulungagung.

Based on the MANOVA test output, the significance values for Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root are all less than 0.05, specifically 0.000. Therefore, based on this test, it can be stated that Hypothesis Three is accepted. This means that there is an influence of Augmented Reality learning media on both students' interest in and results from science lessons at MIN 1 Tulungagung.

Influence of Learning Media Augmented Reality Regarding Interest in Learning Students in Science and Technology Subjects at MIN 1 Tulungagung

The influence of Augmented Reality learning media on students' interest in this study can be measured through a questionnaire assessing students' interest in the experimental and control classes after the implementation of the learning process. Before the questionnaire is distributed, it is validated by an expert lecturer and then tested in a trial class. The results are tested for validity and reliability using the SPSS application. Once the questionnaire is declared valid and reliable, it can be used in the experimental and control classes.

Based on the research results from the posttest in the experimental and control classes, it is known that the average posttest score for students in the experimental class is 81.04, with a highest score of 95 and a lowest score of 65. Meanwhile, the average posttest score for students in the control class is 64.82.

Based on the results from the interest questionnaire in the experimental and control classes, the average interest score for students in the experimental class is 57.42, with a highest score of 60 and a lowest score of 54. In contrast, the average interest score for students in the control class is 50.93, with a highest score of 54 and a lowest score of 46. These results show that there is a significant difference between the classes using Augmented Reality learning media and those that do not.

After analyzing the data, it was tested for normality and homogeneity. The normality test results show that the data for the interest questionnaire in both classes is normally distributed because the significance value (2-tailed) is greater than 0.05. Next, the data was tested for homogeneity, and the results show that the significance value (2-tailed) is greater than 0.05, specifically 0.175. Therefore, it can be stated that the data have homogeneous variation.

Next, since the data is stated to be normally distributed and homogeneous, it was analyzed using the independent sample t-test. The test results show that the significance value (2-tailed) is 0.000, which is smaller than 0.05. Based on these criteria, it is evident that the use of Augmented Reality learning media has a significant influence on students' interest in science lessons at MIN 1 Tulungagung, as there is a significant difference between the interest levels of students in the experimental class and the control class. The average interest questionnaire value for students in the experimental class is 57.42, while the average interest questionnaire value for students in the control class is 50.93.

These research results align with studies conducted by Masri, Dewi Surani, and Ade Fricticarani (2023), which found that Augmented Reality media has a significant impact on learning interest, as proven through T-Test results. Utilizing learning media can enhance interest, fascination, motivation, and student activity, as well as influence psychological aspects (Faiza et al., 2022). Additionally, technology is an effective and efficient tool for developing learning media based on technology, which is expected to increase learning interest and student skills (Masri et al., 2023). Based on the statement above, the study results show that there is a significant influence of using Augmented Reality learning media on students' interest in science lessons at MIN 1 Tulungagung.

Influence of Learning Media Augmented Reality Regarding Learning Outcomes Students in Science and Technology Subjects at MIN 1 Tulungagung

The influence of Augmented Reality learning media on students' study results in this study can be measured through the posttest administered in the experimental and control classes after the implementation of the learning process. Before distributing the posttest, it was validated by an expert lecturer and tested in a trial class. The validity and reliability of the posttest were

assessed using SPSS. Once declared valid and reliable, the posttest was used in both the experimental and control classes.

Based on the research results from the posttest in the experimental and control classes, the average posttest score for students in the experimental class is 81.04, with a highest score of 95 and a lowest score of 65. Meanwhile, the average posttest score for students in the control class is 64.82, with a highest score of 85 and a lowest score of 50. These results show a significant difference between the classes that used Augmented Reality learning media and those that did not.

After analyzing the data, it was tested for normality and homogeneity. The normality test results indicate that the posttest data for students in both classes are normally distributed because the significance value (2-tailed) is greater than 0.05. The homogeneity test results show that the significance value (2-tailed) is greater than 0.05, specifically 0.127, indicating that the data have homogeneous variation.

Next, the data, which are normally distributed and homogeneous, were analyzed using the independent sample t-test. The test results show that the significance value (2-tailed) is 0.000, which is smaller than 0.05. Based on this criterion, it is evident that the use of Augmented Reality learning media has a significant influence on students' study results in science lessons at MIN 1 Tulungagung. The average study results for students in the experimental class are 81.04, while the average study results for students in the control class are 64.82.

These research results align with studies conducted by Awaliyah Agustin and Hilda Aqua Kusuma Wardhani (2023), which found that Augmented Reality (AR) media with Assemblr Edu significantly influences study results, as evidenced by a substantial difference between pretest and posttest scores. The use of Augmented Reality media in the learning process

can enhance students' thinking abilities and is beneficial for the continuity of learning, as noted in the study by Tasya et al. (2023). Additionally, utilizing Augmented Reality media can improve study results by making learning more engaging for students, leading to increased activity and responsiveness in the learning process (Thahir & Kamaruddin, 2021).

Based on the statement above, it can be concluded that the study results show a significant influence of Augmented Reality learning media on students' study results in science lessons at MIN 1 Tulungagung.

Influence of Learning Media *Augmented Reality* Regarding Interest and Learning Outcomes Students in Science and Technology Subjects at MIN 1 Tulungagung

The influence of Augmented Reality learning media on learning interest and study results in this study can be measured through a questionnaire assessing students' interest and a test evaluating students' study results in the experimental and control classes after the implementation of the learning process. The aim is to assess students' interest and study results during the learning process.

Based on data analysis using the MANOVA test, the results show that the significance value (2-tailed) is 0.000, which is smaller than 0.05. Based on this criterion, it can be stated that there is a significant influence of Augmented Reality learning media on students' study results and interest in science lessons at MIN 1 Tulungagung, as there is a significant difference between the interest and study results of students in the experimental class and the control class.

These findings align with research conducted by Marsono, Mulyanto, and Isfarudi (2021), which found that learning with ARS applications is more effective compared to learning without ARS applications. The use of ARS applications in science education has been shown to help students gain a clearer understanding of natural phenomena, such as the universe, the solar

system, and planets; facilitate easier comprehension of scientific methods; and make learning more enjoyable. Augmented Reality applications can stimulate students' interest in learning by making the material more engaging, thereby increasing their activity and improving their study results (Agustin & Wardhani, 2023). Additionally, stimulating learning experiences can enhance students' interests and motivation, leading to better learning outcomes (Thahir & Kamaruddin, 2021).

Based on the statement above, it can be concluded that the study results show a significant influence of Augmented Reality learning media on students' interest and study results in science lessons at MIN 1 Tulungagung.

CONCLUSION

There is a significant influence of Augmented Reality learning media on students' interest in science lessons at MIN 1 Tulungagung. This is based on the results of the independent sample t-test, which show that the significance value (2-tailed) is 0.000. The test results fulfill the hypothesis testing criteria, as the significance value (2-tailed) is 0.000, which is less than 0.05. Significant influence of Augmented Reality learning media on students' study results in science lessons at MIN 1 Tulungagung. This is based on the results of the independent sample t-test, which show that the significance value (2-tailed) is 0.000. The test results fulfill the hypothesis testing criteria, as the significance value (2-tailed) is 0.000, which is less than 0.05. There is a significant influence of Augmented Reality learning media on both students' interest and study results in science lessons at MIN 1 Tulungagung. This is based on the results of the MANOVA test, which show that the significance value (2-tailed) is 0.000. The test results fulfill the hypothesis testing criteria, as the significance value (2-tailed) is 0.000, which is less than 0.05.

REFERENCES

Agustianti, R., Pandriadi, Nussifera, L., Wahyudi, L. A., Meliana, I., Sidik, E.

A., Nurlaila, Q., Simarmata, N., Himawan, I. S., Pawan, E., Ikhram, F., Andriani, A. D., Ratnadewi, & Hardika, I. R. (2022). *Metode Penelitian Kuantitatif dan Kualitatif*. CV. Tohar Media.

Agustin, A., & Aqua Kusuma Wardhani, H. (2023). Pengaruh Media *Augmented Reality* (AR) Berbantuan Assemblr Edu Terhadap Hasil Belajar Siswa SMP IT Robbani Sintang. *Edumedia: Jurnal Keguruan Dan Ilmu Pendidikan*, *7*(2), 7–13. https://doi.org/10.51826/edumedia.v7i2.952

Danti, D. R., Cahyono, B. E. H., & Tryanasari, D. (2023). Pengaruh Media *Augmented Reality* pada Mata Pelajaran IPAS Terhadap Hasil Belajar Siswa. *Prosiding Konferensi Ilmiah Dasar*, *4*, 864–871. http://prosiding.unipma.ac.id/index.php/KID

Dinda Sartika, A., Ayu Cindika, P., Salsa Bella, B., Indah Anggraini, L., Wulandari, P., & Indayana, E. (2023). Implementasi Kuirkulum Merdeka Belajar Menggunakan Model Pembelajaran Interaktif pada Mata Pelajaran IPAS SD/MI. *Journey: Journal of Development and Reseacrh in Education*, *2*(2), 51–65.

Elvira. (2021). Faktor Penyebab Rendahnya Kualitas Pendidikan dan Cara Mengatasinya (Studi pada : Sekolah Dasar di Desa Tonggolobibi). *Iqra: Jurnal Ilmu Kependidikan Dan Keislaman*, *16*(2), 93–98. https://doi.org/10.56338/iqra.v16i2.1602

Faiza, M. N., Yani, M. T., & Suprijono, A. (2022). Efektivitas Penggunaan Media Pembelajaran IPS Berbasis *Augmented Reality* untuk Meningkatkan Kompetensi Pengetahuan Siswa. *Jurnal Basicedu*, *6*(5), 8686–8694. https://doi.org/10.31004/basicedu.v6i5.3901

Ginting, M., & Parluhutan Tambunan, H. (2023). Pengaruh Media Pembelajaran AR (*Augmented Reality*) Berbasis 3D Menggunakan Assemblr Edu Untuk Meningkatkan Hasil Belajar Siswa Kelas IV Tema 3 Sub Tema 1 di SDN 065015 Medan. *IJMS: Indonesian Journal of Mathematics and Natural Science*, *01*(03), 132–139. https://jurnal.academiacenter.org/index.php/IJMS

Hanannika, L. K., & Sukartono, S. (2022). Penerapan Media Pembelajaran Berbasis TIK pada Pembelajaran Tematik di Sekolah Dasar. *Jurnal Basicedu*, *6*(4), 6379–6386. https://doi.org/10.31004/basicedu.v6i4.3269

Hardani, Auliya, N. H., Andriani, H., Fardani, R. A., Ustiawaty, J., Utami, E. F., Sukmana, D. J., & Istiqomah, R. R. (2020). *Metode Penelitian Kualitatif dan Kuantitatif*. CV Puataka Ilmu.

Marsono, Mulyanto, & Isfarudi. (2021). Pengaruh Pembelajaran Menggunakan *Augmented Reality Smartbook* terhadap Minat dan Hasil Belajar IPA pada Siswa SDN 2 Waluyo Kecamatan Buluspesantren. *Jurnal Pendidikan Tambusa*, *5*(2), 3463–3469.

Masri, Surani, D., & Fricticarani, A. (2023). Pengaruh Penggunaan Media *Augmented Reality* Assemblr Edu dalam Meningkatkan Minat Belajar Siswa SMP. *Jurnal Penelitian, Pendidikan Dan Pengajaran: JPPP*, *4*(3), 209–216. https://doi.org/10.30596/jppp.v4i3.16429

OECD(Organisation for Economic Co-operation and Development). (2023). *PISA 2022 Results (Volume I): The State of Learning and Equity in Education*. https://doi.org/10.1787/53f23881-en

Riskiono, S. D., Susanto, T., & Kristianto, K. (2020). *Augmented Reality* sebagai Media Pembelajaran Hewan Purbakala. *Krea-TIF*, *8*(1), 8. https://doi.org/10.32832/kreatif.v8i1.3369

Rozi, F., Fitrah, Y., Izzara, W. A., & Wulansari, R. E. (2024). Preferensi Minat dan Prestasi Belajar Siswa dalam Proses Pembelajaran Elektronika Dasar dengan Pendekatan *Augmented Reality-Based Learning*. *Jurnal Pendidikan Tambusai*, *8*(1), 6344–6345.

Sahara, E. (2021). Improving Mathematics Learning Outcomes of Grade Two Students of State Elementary School 5 Cibunar Through Problem Based Learning (PBL) Model. *SHEs: Conference Series*, *4*(5), 1365– 1370.

Tasya, N., Syamsurizal, Arsih, F., & Anggriyani, R. (2023). Validitas Modul Ajar Hereditas Manusia Berbasis Problem Based Learning (PBL). *JOTE: Journal On Teacher Education, 4(3)*, 242–250.

Thahir, R., & Kamaruddin, R. (2021). Pengaruh Media Pembelajaran Berbasis *Augmented Reality* (AR) Terhadap Hasil Belajar Biologi Siswa SMA. *Jurnal Riset dan Inovasi Pembelajaran*, *1*(2), 24–35. https://doi.org/10.51574/jrip.v1i2.26

Wijaya, E. Y., Dwi Aagus Sudjimat, & Amat Nyoto. (2016). Transformasi Pendidikan Abad 21 Sebagai Tuntutan. *Jurnal Pendidikan*, *6*(4), 263–278. http://repository.unikama.ac.id/840/32/263-278