JURNAL
Pendidikan Dasar dan Keguruan
Volume 10, No. 2, 2025
P-ISSN: 2527-578X
E-ISSN: 2715-2818
Homepage: https://journal.uiad.ac.id/index.php/JPDK/index

The effect of Learning Media Assemblr Edu application on the interest of learning science students Class V UPTD SDN 12 Parepare

Ila Israwaty, Musfirah[2], Fahrisa Octaviani Rusdi[3]
[123]*Universitas Negeri Makassar*
E-mail:, farisqh277@gmail.com

DOI: https://doi.org/10.47435/jpdk.v10i02.4144

Abstract

The problem in this study is the low interest in learning science students grade V. The purpose of the study was to determine the effect of the Assemblr Edu application Learning media *Assemblr Edu*on students ' interest in learning science on respiratory organ material in Class V of UPTD SD Negeri 12 Parepare. This study uses quantitative methods, with the design *of Quasi-experimental type Nonequivalent Control Group Design.* The population of this study involved all students of SD Negeri 12 Parepare as many as 176 students, while the sample was the fifth grade students as many as 40 students who were divided into 2 sample groups. 20 learners in the experimental class and 20 in the control class. Data collection techniques used in the form *of pretest* and *posttest questionnaire.* Data analysis techniques used are descriptive data analysis and inferential data analysis. The results of descriptive data analysis showed that the experimental class achieved a higher average score of 74.95 than the control class with an average value of 64.85. While the results of inferential analysis using *Independent Sample t-Test* showed Sig (2 - *tailed*) = 0.000 < 0.05 and t-count value of 4.717 > t-Table value of 2.024, so H_0 rejected and H_1 accepted. So the conclusion is that the Assemblr Edu application Learning media *Assemblr Edu*has an effect on increasing the interest in learning science students in the fifth grade of SD Negeri 12 Parepare.

Keywords: *Learning Media, Assemblr Edu, Learning Interest*

1. Introduction

Teachers become one of the important components that play a role, in addition to students in the learning process**.** According to *Musfirah et al*. (2020) in terms of improving the quality of learning, teachers are one of the main aspects. The task of educators is not limited to knowledge transfer alone, but also equipping students for the future (Israwaty, 2024). The success of learning is very dependent on the teacher, because they are the ones who will foster interest and enthusiasm for student learning so that students like a lesson (Suyitno, *et al.*, 2023). As in the learning of Science in elementary school, the role of a teacher is needed.

Teachers have roles and responsibilities that determine the achievement of the IPAS learning process. Suhelayanti *et al.*, (2023) suggests that in science learning, the first responsibility of teachers is to create conditions so that learners can love, feel happy and enjoy learning at school. Teachers are responsible for creating conditions that allow learners to avoid stress, feelings of doubt, anxiety, and worry. It is important not only for their academic progress but also for their future life. Preparing and designing learning is one of the abilities that teachers must have in carrying out their duties (Nuralan, 2020). In the application of learning is needed maximum teacher readiness, especially in the learning process activities, teachers are expected to be independent and creative to develop learning support in addition to the handbook (Agustina *et al*. 2022).

Teacher readiness in preparing learning is determining the success and effectiveness of learning. However, the fact is that there are still a number of teachers who do not prepare well for learning due


JURNAL
Pendidikan Dasar dan Keguruan
Volume 10, No. 2, 2025
P-ISSN: 2527-578X
E-ISSN: 2715-2818
Homepage: https://journal.uiad.ac.id/index.php/JPDK/index

to several factors. Such as administrative tasks, motivation, lack of understanding or skills, personal problems, as well as lack of support from principals and colleagues. The performance of a teacher will affect the quality of learning. According to Warni et al. (2021) the quality of a teacher will affect the success of students in learning. If learning does not run effectively and there is nothing interesting in learning, it causes learning deviations by students. Such students will feel bored and may cause low interest in learning.

Based on the results of direct observation and interviews conducted at SDN 12 Parepare on July 25, it was found that the interest of students in learning science science content is still relatively low. Which is caused from two aspects, namely teachers and students. From the aspect of educators, it was found that most teachers raced on package books as teaching materials using the lecture method, some teachers were also minimal in utilizing interactive learning media. As well as learning models that do not vary so that learning becomes monotonous. As for student factors, it was found that some students lack enthusiasm and fall asleep in learning if the teacher explains the learning, there are also some students who are passive in learning so that learning becomes less interactive, in addition, not infrequently there are students who ask permission to leave the classroom when the learning process is underway.

Based on the existing problems, steps can be taken, namely implementing interactive and efficient learning media to meet student needs. According to Hakim *et al*., (2020) primary school teachers need to be fully aware of how important learning media is. This is because the learning media play a significant involvement in helping learning activities optimally and get the expected results. Learning Media that are developed and presented effectively will improve the quality of student learning and allow them to learn by adjusting conditions, as well as increasing their motivation and interest in lessons (Firdiana, 2020).

Using Learning media is very helpful to increase learners ' interest in learning. According to Rahmi et al. (2020) learning interest is the presence of students ' interest in the learning process so that students tend to be active. While menurut Ningrum (2021) interest in learning is one of the main components of creating successful learning activities. Students ' interest in learning becomes one of the main elements in the success of the learning series. Because students will easily accept lessons if they have a high interest in learning. Learning Media can support in stimulating active involvement of students in learning activities. Israwaty *et al,* (2022) revealed that when utilizing attractive Learning media and spurring interest, it can help educators in channeling lesson topics more easily. Interestingly designed Media are able to increase student interest and concentration, so that in the learning process the active participation of students has increased. There are many types of Learning media. One of them is media with android-based technology that can make learners interested and motivated to follow learning and can reduce the negative impact of technology for students.

Assemblr Edu is one of the learning platforms that implements digital and internet technology that can facilitate the task of teachers in the learning process. *The Assemblr Edu application* is designed to integrate a variety of existing objects to create 3D and *Augmented Reality content* that is not only participatory, but also able to provide a fun learning experience (*Assemblr*, 2023). *Assemblr Edu* is suitable for use as a learning media for science, especially for science content. According to Ruzaina, *et al*. (2024) suggested that *Assemblr Edu* can make complex and abstract science materials clearer and can attract students ' attention. The use *of Augmented Reality* (AR) technology in learning, as applied to the *Assemblr Edu platform*, is in line with initiatives to integrate modern technology in education in the 21st century era, as pointed out by curriculum merdeka.

Aplikasi *The Assemblr Edu application* can be used as an IPAS learning media that has the potential to optimize student interest in learning, with objects available in the application that will make students interested. This is confirmed by various findings in previous studies that prove that *Assemblr Edu* can increase interest in learning. In accordance with the findings of the study Pinilih *et al*., (2024) concluded that by implementing *Assemblr Edu-based learning media* in the learning process, students

JURNAL
Pendidikan Dasar dan Keguruan
Volume 10, No. 2, 2025
P-ISSN: 2527-578X
E-ISSN: 2715-2818
Homepage: https://journal.uiad.ac.id/index.php/JPDK/index

look interested and actively participate, so *that the Assemblr Edu application* is effective as an effort to encourage student learning interest. As for the research Rizky *et al*., (2023) concluded that *Assemblr Edu* presents lesson objects in a real way, making it easier for students to observe and understand the material and enabling the creation of innovative learning environments. and increase the enthusiasm of learners. This has a positive effect on students ' interest in learning.

Subsequent research conducted by Annisa (2024) indicated that the use of a game-based PBL learning model through *the Assemblr Edu application* was able to encourage increased student motivation in studying in Grade V at SD Negeri 020 Lengkong Besar in IPAS subjects. The study showed that students who took part in learning using *the Assemblr Edu application* scored better. Rif'ah (2024) conducted a similar study which stated that using a cooperative learning model *of the Teams Games Tournament* (TGT) type assisted by Assemblr Edu interactive learning media *Assemblr Edu*was able to increase the interest of fifth grade learners in MIN 2 Sidoarjo in learning Indonesian language learning. In the study, students in the group using *the Assemblr Edu application* and the TGT learning model obtained an average value of 8.16. Meanwhile, the group of students who studied without using the approach only obtained an average score of 64.85. This difference illustrates a significant jump in the level of student learning achievement. when learning is packed in an interactive and fun way.

Subsequent research was also conducted Rinda *et al.* (2023) shows that the implementation *of Assemblr Edu*, which integrates *Augmented Reality* (AR) technology, can optimize the interest of Class VI students at SDN Pancur II, Pasuruan in learning. Before the use of the application, the student's interest in learning was recorded at 79%. However, after implementing AR-based learning through *the Assemblr Edu application*, the percentage of learning interest increased significantly to 94%. These findings indicate that the visualization of learning materials in an interactive form through AR technology is able to provide a motivating learning experience and encourage students to actively participate in learning.

Reviewing the description of several previous studies above with this study there are some similarities and differences. In terms of similarity, the variables used are the same, namely *the Assemblr Edu application* and student learning interests, besides that the object of research is also the same, namely students at the elementary school level. Meanwhile, significant differences in the types of research methods used; Pinilih *et al.* (2024) dan Rinda *et al.* (2023) using the development research method, the type of experimental research applied by Rizky *et al.* (2023) is also different because there are no control classes, types and learning, and research places that are also different. Based on the background and description of previous research, an experimental study was carried out with the title of the study **"the effect of Learning Media *Assemblr Edu application* on the interest of learning science students in Class V UPTD SDN 12 Parepare".**

2. Methods

This research was carried out on students of Class V of UPTD SD Negeri 12 Parepare in the period from 13 to 20 March 2025. The sample involved in this study amounted to 40 students, who were divided equally into two groups, namely 20 students in the experimental group and 20 other students in the control group. Sampling technique applied in this study is *Non-Probability Sampling* with *Purposive Sampling type.* The purposive sampling method *purposive* involves the selection of a sample from the desired population by the researcher. The method used in the application of this study is the experimental method.Experimental research is a research method in which the research process uses a control class on the subject used so that it is carried out carefully and the results are more accurate than other research methods (Arib *et al.,* 2024). The type of experiment used is quasi experiment *with* model *Nonequivalent Control Group Design model*. As explained by Kusumawati (2023), this design includes two groups, namely the experimental group and the control group, where only the experimental group is given treatment, and the division of the groups is not done randomly. This study uses data collection techniques with questionnaires and documentation. While the

JURNAL
Pendidikan Dasar dan Keguruan
Volume 10, No. 2, 2025
P-ISSN: 2527-578X
E-ISSN: 2715-2818
Homepage: https://journal.uiad.ac.id/index.php/JPDK/index

data analysis techniques in this study are descriptive statistical data analysis techniques and inferential data analysis techniques that include normality test, homogeneity test and hypothesis test.

3. Results and discussion

The results were based on research conducted by researchers, by conducting an initial test (*pretest)* first in both classes, experimental class and control class using research instruments, namely a questionnaire of 24 statements. After that, followed by the provision *of treatment* in the experimental class , namely the application of the application *of Assembr Edu* in learning science respiratory organ material and in the control class applied conventional learning model. After the *treatment*, followed by a final Test (*posttest*). the final Test is a questionnaire with the same number of statements as the initial test.*Posttest* results of both classes are processed and then compared. The *pretest* and *posttest* values obtained were processed and analyzed using the SPSS version 26 application to determine the effect *of the Assemblr Edu application* on student learning interest in learning science about respiratory organs in the fifth grade of SD Negeri 12 Parepare.

3.1. Results Of Analysis Of Descriptive Statistical Data Final Conditions

3.1.1. Control Class

The results of the value of students 'learning interests in the control class after teaching were grouped based on the criteria of students' learning interests. Get the result that there are no students who obtain a score of interest in learning on the criteria of very high. The majority of students, namely 14 people have a value of interest in learning on high criteria. There are 6 students who have an interest in learning on sufficient criteria. Lastly, there are no learners with a value of interest in learning at low criteria. The Data end of the control class learning interest in science subjects has been analyzed through SPSS version 26. The results of the analysis are described in the table on the next page:

Table Error! Bookmark not defined. results descriptive statistics final Conditions Control class

Statistik	Nilai Statistik
Rata-rata (*Mean*)	64.85
Maksimum	76
Minimum	51
Standar Deviasi	7.300

Based on the table of descriptive statistics above, it can be seen that the average value (mean) of 20 samples is 64.85, the maximum value is 76 and the minimum value is 51. Standard deviation of7.300 .

3.1.2. Experimental Class

The results of the value of learning interests of students in the experimental class after teaching were grouped based on the criteria of learning interests of students. Get the results that there are 7 students who have a value of interest in learning on very high criteria. The majority of students, namely 13 people have a value of interest in learning on high criteria. There are no learners who have the value of interest in learning on the criteria of sufficient and low criteria. The final data of experimental class learning interest in science subjects has been analyzed through SPSS version 26. The results of the analysis are described in the table below:

Table 2 Results Of Descriptive Statistics Of The Final Conditions Of The Experimental Class

Statistik	Nilai Statistik
Rata-rata (*Mean*)	74.95
Maksimum	85
Minimum	64
Standar Deviasi	6.661

Based on the table of descriptive statistics above, it can be seen that the average value (mean) of 20 samples is 74.95. The maximum value is 85 and the minimum value is 64. The standard deviation is 6.661.

JURNAL
Pendidikan Dasar dan Keguruan
Volume 10, No. 2, 2025
P-ISSN: 2527-578X
E-ISSN: 2715-2818
Homepage: https://journal.uiad.ac.id/index.php/JPDK/index

3.2 Inferential Statistical Data Analysis Results

3.2.1. Normality Test

Normality test conducted with SPSS software version 26, with *Shapiro-Wilk approach* by looking at the significance (Sig.).

Tests of Normality

		Shapiro-Wilk		
	Kelas	Statistic	df	Sig.
Pretest A Results	(Control)	.953	20	.413
	PosttestA(Kontrol)	.934	20181	.181
	PretestB (Experimental)	.950	20	.367
	PostteastB(Eksperimen)	.935	20	.192

Figure 1 Results Of The Normality Test

Basedon the results of the normality test presented in the figure above, the significance value can be > 0.05 so that the data is stated to be normallydistributed.

3.2.2. Homogeneity Test

The following is the result of homogeneity test applied using SPSS software version 26 .

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Hasil	Based on Mean	.349	3	76	.790
	Based on Median	.238	3	76	.870
	Based on Median and with adjusted df	.238	3	67.876	.870
	Based on trimmed mean	.355	3	76	.785

Figure 2 Results Of The Homogeneity Test

According to the homogeneity test results shown in the figure, a significance score of > 0.05 was obtained. So the variance of the data from both groups is stated to be homogeneous. Based on the results of the normality and homogeneity test, the conditions for applying parametric statistical analysis are met, so that the process can proceed to the hypothesis test stage.

3.2.3 Hypothesis Testing

The test procedure is applied by *Independent Sample T-test method* through the help of SPSS software version 26. Here are the results of hypothesis testing:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Hasil	Equal variances assumed	.520	.475	-4.717	38	.000	-11.950	2.533	-17.078	-6.822
	Equal variances not assumed			-4.717	36.939	.000	-11.950	2.533	-17.083	-6.817

Figure 3 Results Of The Hypothesis Test

Based on the visualization of the above data, the results of the hypothesis test with *Independent Samples Test method* showed that the value of significance (2-tailed) obtained is 0.000, which means it is below the significance limit of 0.05. Then, the calculated t score was recorded at 4.717, while the

JURNAL
Pendidikan Dasar dan Keguruan
Volume 10, No. 2, 2025
P-ISSN: 2527-578X
E-ISSN: 2715-2818
Homepage: https://journal.uiad.ac.id/index.php/JPDK/index

table t value was 2.024, calculated based on the degree of freedom (df) corresponding to the number of samples. Taking into account both results, it can be concluded that the null hypothesis (H_0) was rejected, and the alternative hypothesis (H_1) was accepted. Thus, there was a significant difference in the average interest in learning science between the experimental group that used the Learning media *Assemblr Edu* and the control group that did not use it. Therefore, the application *of the Assemblr Edu* application proved to have a positive effect on increasing the interest in learning science for Grade V students at UPTD SD Negeri 12 Parepare.

3.3 discussion

Based on the results of descriptive analysis shows that the average value in the experimental class after treatment is greater than the average value in the control class. These findings indicate that the application of treatment in the experimental class has a greater impact on increasing the interest in learning of learners compared to the control class.

This study implements inferential statistical analysis as a method of testing hypotheses that have been formulated. Before carrying out the hypothesis test, the researcher applies an examination of the basic assumptions in the form of normality and homogeneity test data. Normality testing shows that the data distribution follows the normal distribution, while homogeneity testing shows that the data variance is homogeneous. The fulfillment of these two conditions allows the hypothesis testing process can be implemented using *the Independent Sample T-Test technique.* According to the test results, the value of significance (2-tailed) = 0.000 < 0.05. This explains the significant difference between the experimental group and the control group, where H0 was$_0$ rejected and H1 was$_1$ accepted. That is, the independent variable has a significant influence on the dependent variable. This is also reinforced by the comparison of the value *of t-count* with *t-table*, where *t-count* > *t-table* (4.717 > 2.024). Furthermore,to measure the effectiveness of the learning media used, the analysis using *the N-Gain Score test*. The results showed that Assemblr Edu application-based learning media *Assemblr Edu*has a higher effectiveness than conventional learning media. The distribution of achievement in the experimental group showed 4 students who managed to reach the high category, in contrast to the control group that did not have students in that category. In contrast, the control group was dominated by 11 students who were in the low category, while the experimental group had only 1 student in the same category.

The findings of this study indicate that the implementation of Assemblr Edu Learning media *Assemblr Edu*has a meaningful impact in maximizing the enthusiasm of students in learning, especially on the topic of human respiratory organs in science learning. The results of this study have alignment with research conducted by Annisa (2024) concluded that AR-oriented learning such *as Assemblr Edu* has significant potential in transforming the learning experience, especially in facilitating the understanding of complex science concepts through interactive visualizations that appeal to learners. Research Rif'ah (2024) also found the same thing, namely the use *of Assemblr Edu media* has a positive impact on increasing student learning interest. Support for the effectiveness of the media is also obtained in research Rinda *et. al* (2023). concluded that the utilization *of Assemblr Edu media* based *on AR technology* proved to be able to increase student learning interest.

4. Knot

Based on research problems and research results can be concluded that there is an effect of the use of instructional media *Assemblr Edu application* on students ' interest in learning science on the material of respiratory organs in Class V UPTD SD Negeri 12 Parepare. This is evidenced in the results of the comparison of the average value *of pretest-posttest* experimental class and control class, also in the hypothesis test using *an Independent Sample t-Test* showed 0,000 < 0.05, and in the comparison of the value of t-count and T-table, where T-hiung > t-Table is 4,717 > 2,024.

JURNAL
Pendidikan Dasar dan Keguruan
Volume 10, No. 2, 2025
P-ISSN: 2527-578X
E-ISSN: 2715-2818
Homepage: https://journal.uiad.ac.id/index.php/JPDK/index

Bibliography

Agustina, Saadah, N., Robandi, B., Rosmiati, I., & Maulana, Y. (2022). Analisis Pedagogical Content Knowledge terhadap Buku Guru IPAS pada Muatan IPA Sekolah Dasar Kurikulum Merdeka. *Jurnal Basicedu*, 6(5), 9180–9187.

Annisa, C. (2024). Pengaruh Model Problem Based Learning Berbantuan Media Aplikasi Assamblr Edu terhadap Minat Belajar IPAS Kelas V Sekolah Dasar (Penelitian Quasi Eksperimen di Kelas V SDN 020 Lengkong Besar). *Skripsi*. Bandung: Universitas Pasunduan.

Arib, M. F., Rahayu, M. S., Sidorj, R. A., & Afgani, M. W. (2024). Experimental Research dalam Penelitian Pendidikan. *Innovative: Journal Of Social Science Research*, *4*(1): 5501.

Assemblr. (2023). Assemblr-Visualize Ideas in 3D and AR. https://id.edu.assemblrworld.com/how-itworks (diakses, 25 Agustus 2024)

Firdiana, W. (2020). *Pengembangan Media Pembelajaran Interaktif Menggunakan Moodle di Masa Pandemi Covid-19 pada Mata Pelajaran Ekonomi Kelas X di SMA Negeri 29 Jakarta*. Skripsi. Fakultas Ilmu Tarbiyah dan Keguruan. Jakarta: Universitas Islam Negeri Syarif Hidayatullah Jakarta.

Hakim, A., Israwaty, I., & Rustam, D. H. (2020). Penggunaan Media Video Pembelajaran pada Tema 2 tentang Kewajiban, Hak dan Tanggung Jawab untuk Meningkatkan Hail Belajar Siswa Kelas V UPT SD Negeri 228 Pinrang. *Jurnal Publikasi Pendidikan*. XX. 1-6.

Israwaty, I., & Ilmi, N., & Melda. (2022). Penggunaan Media Pemebalajaran Video Animasi dalam Meningkatkan Hasil Belajar Siswa Kelas IV. *Nubin Smart Journal,* 2(3); 70.

Israwaty, I, Usman & Multazam, N., A. (2024). Penerapan Model Problem Based Learning untuk Meningkatkan Hasil Belajar Siswa pada Muatan IPA Kelas V. *Jurnal Ilmu Pendidikan Dasar*, *7*(2):242.

Kusumawati, E. (2023). *Metodologi Penelitian Langkah-langkah Metodologi Penelitian yang Sistematik*. Kotawaringin Timur: PT. Asadel Liamsindo Teknologi.

Musfirah, Nurul Mukhlisa, N.F(2020). Penerapan Model Take And Give pada pembelajaran Tema 2 tentang Persatuan dan Kesatuan untuk Meningkatkan Hasil Belajar Peserta Didik Kelas VI UPTD SD Negeri 109 Pinrang. *Jurnal Publikasi Pendidikan*, XX, 12-26.

Ningrum, C. C. (2021). Pengaruh Penggunaan Media Pembelajaran Terhadap Minat Belajar dan Hasil Belajar Siswa di SD Negeri Kaliputih. *Skripsi*. Purwokerto: Institut Agama Islam Negeri Purwokerto.

Nuralan, S. (2020). Kopetensi Pedagogik Guru dalam Mendesain Pembelajaran di SD Negeri 23 Tolitoli. *Jurnal Pendidikan Dasar dan Keguruan*, 1(1), 65-69.

JURNAL
Pendidikan Dasar dan Keguruan
Volume 10, No. 2, 2025
P-ISSN: 2527-578X
E-ISSN: 2715-2818
Homepage: https://journal.uiad.ac.id/index.php/JPDK/index

Pinilih, G., I., Suwartini, S. & Santoso, G., B. (2024). Pengembangan Media Pembelajaran Berbasis Assemblr Edu Untuk Meningkatkan Minat Belajar Peserta Didik SD Negeri 1 Kujon Tahun Pelajaran 2023/2024. *Edukasi Elita : Jurnal Inovasi Pendidikan*, *1*(4), 179–189

Rahmi, I., Nurmalina, N., & Fauziddin, M. (2020). Penerapan Model Role Playing Untuk Meningkatkan Minat Belajar Siswa Sekolah Dasar. *Journal of Teacher Education*, *2*(1), 197–206.

Rif'ah, S., N. (2024). Pengaruh Media Assamblr Edu Berbantuan Model Team Games Tournament (TGT) Terhadap Minat Belajar Bahasa Indonesia Siswa Kelas V MIN 2 Sidoarjo. *Skripsi.* Surabaya: Universitas Islam Negeri Sunan Ampel Surabaya.

Rinda, A., S., Kumala, F., N. & Triwahyudianto. (2023). Pengembangan Media Assamblr Edu Berbasis Augmented Reality untuk Meningkatkan Minat Belajar pada Pembelajaran Tematik Kelas VI Sekolah Dasar. *Seminar Nasional PGSD UNIKMA*, 7(1): 26-36.

Rizky, M., Al Ihwanah, Pratama, M., A., P., & Muthmainah, A. (2023) Pengaruh Media Pembelajaran Menggunakan Aplikasi Assamblr Edu Terhadap Minat Belajar Siswa pada Mata Pelajaran IPA Kelas V di SD Palembang. *Jurnal Penelitian Ilmu Sosial*, 3(2): 9552-9562.

Ruzaina, F., Haris, A. & Ernie (2024). Pengaruh Penggunaan Media Pembelajaran Augmented Reality (AR) Assemblr Edu terhadap Minat Belajar IPA Peserta Didik. *Jurnal Pemikiran dan Pengembangan Pembelajaran*, 6(2), 1012-1019.

Suhelayanti, Syamsiah Z, Rahmawati I, Tantu Y., R., P., Kunus W., R., Suleman N., Nasbey H., Tangio J., S., & Anzelina D. (2023). *Buku-Referensi-Pembelajaran-Ilmu-Pengetahuan-Alam-dan-Sosial-IPAS.pdf.* Medan: Yayasan Kita Menulis.

Suyitno, S., Cahyono, D. D., Mustofa, N. H., Fuadi, D., & Gunarsih, S. (2023). Peningkatan Motivasi Belajar Siswa SD Kelas IV Mata Pelajaran IPAS Tema Batang Tumbuhan Melalui *Quantum Teaching* di SD Islam Terpadu Arrahmah Pacitan. *Journal of basic learning and thematic*, 1(1):15.

Warni, Nurhayati, R. Judrah, M., & Syarifuddin. Pengaruh Kepemimpinan Kepala Sekolah terhadap Kinerja Guru di SDN 45 Lempangan Sinjai Selatan. *Jurnal Pendidikan Dasar dan Keguruan*. 6(1): 31-39.