Available online at http://journal.uny.ac.id/index.php/jrpm

Jurnal Riset Pendidikan Matematika 12 (1), 2025, 1-10

Rationalism Values Of Junior High School Students Using Digital Media Worksheets Geometry Content Agrotourism Context

Ahmad Afrideni Kurniawan [1], Nyimas Aisyah [1,*], Meryansumayeka [1], Hendra Lesmana [1], Siti Mistima Maat [2]

[1]Program Studi Pendidikan Matematika, Universitas Sriwijaya, Jl. Raya Palembang-Prabumulih Indralaya Ogan Ilir 30662, Indonesia

[2]The National University of Malaysia, Bangi, Selangor, Malaysia

E-mail: nyimas.aisyah@fkip.unsri.ac.id.

* Corresponding Author

ARTICLE INFO

Article history
Received: 5 Dec 2024
Revised: 24 Feb 2025
Accepted: 20 Mar 2025

Keywords
Nilai Rasionalismel, LKPD Digital, Geometri, Agrowisata; *Rationalism Value, Digital Worksheets, Geometry, Agrotourism*

ABSTRACT

Penelitian ini bertujuan untuk mendeskripsikan nilai rasionalisme siswa SMP menggunakan media digital worksheets konteks agrowisata materi luas permukaan tabung dengan subyek penelitian 3 siswa kelas IX. Metode penelitian ini menggunakan deskriptif kualitatif dengan pengumpulan data menggunakan tes dan wawancara. Temuan dari penelitian ini adalah media tersebut dapat memunculkan nilai rasionalisme. Implikasi dari penelitian ini, siswa dapat merepresentasikan objek nyata menjadi objek matematika dan menuliskan informasi yang sesuai dengan unsur bangun tabung, menyelidiki jaring-jaring yang sesuai dalam objek masalah serta menuliskan alasan dalam setiap langkah penyelesaian. Penelitian ini mengintegrasikan teknologi berupa media worksheets konteks agrowisata yang relevan dengan kebutuhan pembelajaran saat ini.

This research aims to describe the rationalism value of junior high school students using digital media, worksheets in the context of agrotourism as material on the surface area of tubes with the research subjects being 3 class IX students. This research method uses descriptive qualitative with data collection using tests and interviews. The findings from this research are that this media can bring out the value of rationalism. The implication of this research is that students can represent real objects into mathematical objects and write information that corresponds to the elements of a cylinder, investigate the appropriate nets in the problem object and write the reasons for each solution step. This research integrates technology in the form of agrotourism context worksheet media that is relevant to current learning needs.

How to Cite: Kurniawan, A. A., Aisyah, N., Meryansumayeka, Lesmana, H., & Maat, S. M. (2025). Rationalism values of junior high school students using digital media worksheets geometry content agrotourism context. *Jurnal Riset Pendidikan Matematika, 12*(1), 1–10. https://doi.org/10.21831/jrpm.v12i1.79818

INTRODUCTION

21st century education is increasingly dominated by digital technology, the integration of technology in learning not only plays a role in preparing students to face the digital world, but also plays a role in helping students develop the technological skills needed in the future. This is in line with the statement of Midroro et al (2021) that the use of digital-based and interactive learning media is more attractive to students because it is something new, so that students respond positively to the media. The use of learning with digital worksheets is also suitable and relevant to everyday life to be applied in target schools, and has digital-based innovations in the learning strategies provided so that they can

obtain maximum and more effective benefits (Ristiana et al., 2024). As with the rapid pace of technological development, it greatly affects the world of education to improve its quality.

One example of technology integration in learning is the use of digital worksheets. The use of digital worksheets allows students to access learning materials anytime and anywhere. Digital worksheets contain student worksheets that are packaged electronically (Adawiyah et al., 2021). One area of mathematics that is considered difficult by students is geometry (Fauzi et al., 2021). This is due to the difficulty of students in forming accurate real constructions, requiring precision in measurements, taking a long time and many students experiencing obstacles in proving their answers. Geometry is not only an important part of mathematics, but also in everyday life, the reason is because geometry is considered a field that can encourage visualization, intuition, critical thinking, problem solving, deductive reasoning, arguments and logical evidence of students (Yayuk, 2019). So it is necessary to develop teaching media in digital form, this is in line with research conducted by Butarbutar (2024) which states that students need digital worksheets teaching materials to facilitate Geometry learning. One real context that can be used is agrotourism.

Agrotourism can be used to provide students with contextual learning experiences. Learning that uses real contexts can increase students' motivation to learn. Combining real contexts with mathematics provides an interesting learning experience for students, creates positive perceptions of mathematics, and motivates students to learn (Nurhayati, 2023). However, efforts to integrate geometry into the context of agrotourism require the right learning aids. Currently, digital worksheets are one of the promising solutions to support mathematics learning. By using digital worksheets, students can learn independently while staying connected to the real context of agrotourism. Learning with the real context of agrotourism with geometry material content on digital worksheets in the learning process carried out by educators and students can bring up mathematical values (Mathematics Values). One of the mathematical values is the value of rationalism. Zhang (2019) stated that the results of Rationalism Values are important in developing students' skills in terms of reasoning, expressing and defending their opinions, interpreting data obtained from experience and efforts to make predictions. Previous research such as that conducted by Salami (2020) stated that mathematics learning, one of the goals of which is to develop rationalism values, has not been optimally realized, this is because the quality of teachers in learning has not improved. When compared to the openness and progress values in Andersson's (2019) research using the WIFI (What I Find Important) survey, the Rationalism Value ranks lowest with an average of 1.83 for each indicator, namely Verifying theorems or hypotheses; 1.98 for learning the proofs; and 1.85 for knowing the theoretical aspects of math's proofs. Setiawati (2018) also stated in her research using problem-based learning that the mathematics values that often appear are only objectivity values and control values, while rationalism values rarely appear. This is because students rarely draw conclusions and provide reasons for the answers obtained. Therefore, this study aims to describe the rationalism values of junior high school students using digital media worksheets in the context of agrotourism on the surface area of cylinders.

METHOD

This research is a descriptive study with a qualitative approach. The focus of this study is to analyze the value of rationalism as one of the mathematical values using digital media worksheets in the context of agrotourism on the material of the surface area of cylinders. The subjects of the study were determined intentionally, based on the results of summative assessments, teacher recommendations, based on answers, and willingness to be involved in the research. The participants in this study were three ninth-grade students from a public junior high school in Sumatra, Indonesia, during the 2023–2024 academic year. They were purposively selected to represent three levels of mathematical ability: high, medium, and low. The three students were chosen because they had diverse rationalism values. The instrument used by the researcher was a question that had been validated by a validator consisting of Dr. Meryansumayeka, M. Sc, Dr. Hapizah, M.T as a lecturer in Mathematics Education at Sriwijaya University and Mrs. Kania Sitisyarah, M.Pd as a teacher.

The indicator of rationalism value as one of the mathematical values consists of 3 indicators: Students represent geometric shapes and investigate geometric nets to simplify problems, students provide reasons/arguments for the answers they give, and students draw conclusions from mathematical solutions. In its implementation, the researcher taught 33 students through student answers on digital

ISSN 2356-2684 (print), ISSN 2477-1503 (online)

worksheets. Digital worksheets with an agrotourism context containing content that guides students to bring up the three indicators of rationalism values in the surface area material for two meetings. Then 1 meeting was given a written test in the form of 2 questions about the surface area of a cylinder material with an agrotourism context. In working on the test questions, students were given a time limit of 70 minutes. After conducting the test, the researcher conducted interviews with the aim of exploring information about the emergence of rationalism values that had been obtained from the test data conducted on each subject. Then the data was analyzed by paying attention to the emergence of rationalism value indicators.

RESULT AND DISCUSSION

Digital worksheets use the wizer.me platform in learning to encourage students to bring up rationalism values according to indicators, students are required to solve problems starting from representing the appropriate shape of the object then investigating its net and providing reasons for each step of the solution then drawing conclusions on the solution to the problem. Here are some sample activities on digital worksheets

Figure 1. Digital *worksheets*

Data analysis was conducted to see the emergence of rationalism values based on the indicators of rationalism values on the answer sheets of research subjects in the written test, then to deepen the data obtained, the researcher conducted interviews with research subjects. The results of the emergence of rationalism values are presented in the table below:

Table 1. Subject Answer and Emerging Indicators

Subject	Representing Geometric Shapes and Investigating Appropriate Nets		Providing arguments or reason in answers or solution steps		Making a conclusion		Amount
	1	2	1	2	1	2	
FH	√	√	√	√	√	√	6
ZW	√	×	√	×	√	×	3
NF	√	×	×	×	√	×	2

Subject FH is a subject who has high ability. Subject FH is able to bring up all indicators of rationalism value when working on test questions. Subject FH also brings up rationalism value during the learning process where subject FH always answers questions given by researchers accompanied by logical reasons in their answers. In working on the test, subject FH is able to answer problems correctly starting from representing the appropriate shape, investigating nets, to finding solutions or drawing conclusions from the problems presented. This can be seen from the answer sheet for subject FH's test

ISSN 2356-2684 (print), ISSN 2477-1503 (online)

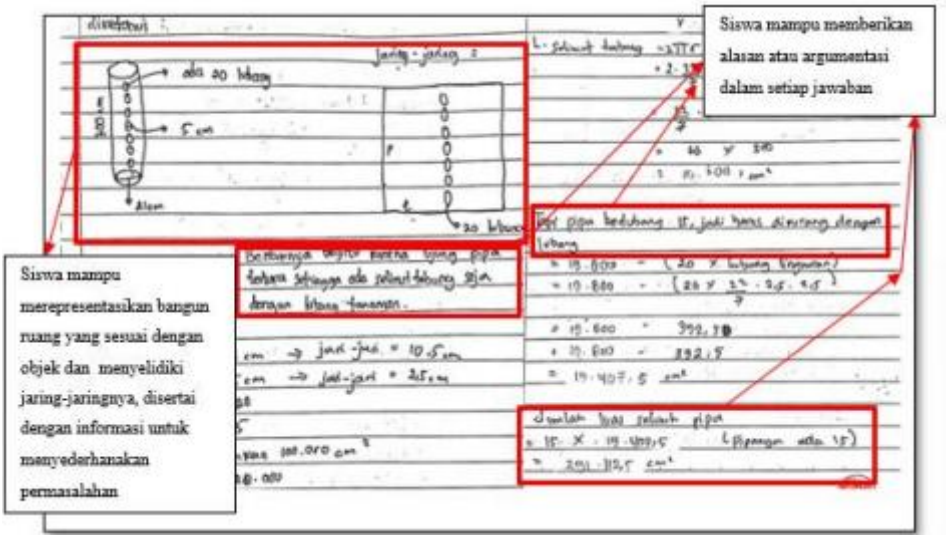

Figure 2. Subject FH's answers

Subject FH represents the appropriate geometric shape in the problem, equipped with information on the problem as an element in a cylindrical geometric shape to solve the problem and investigates the appropriate geometric net in the form of a cylindrical net shape accompanied by reasons for each step of the solution. Subject FH is also able to draw conclusions in the form of a solution to the problem based on the steps of the solution he made

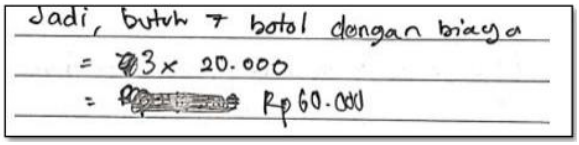

Figure 3. Conclusion of FH Subject

Based on the answer of subject FH, subject FH can represent the object in the problem and then determine the net of the structure correctly, on that basis the subject can determine the solution to the problem correctly equipped with rational reasons in each step of the solution supported by interview data where the subject stated that after representing the image and understanding the problem that we can adjust the information contained in the problem with the object of the cylinder space structure, and it turns out that the cylinder does not have a lid and base and has 20 holes in it, with the activity of investigating it was found that this problem can be solved by finding the surface area of the cylinder cover then subtracting the holes, so with that we can determine the cost of cleaning the pipe.

Subject ZW is a subject who has moderate ability. Subject ZW is able to bring up all indicators of rationalism values when working on test question number 1. Subject ZW brings up indicators of representing objects and investigating space structures writing information to simplify problems, providing reasons or arguments from answers and drawing conclusions. Here is subject ZW's answer to question number 1.

Based on the test answers of subject ZW, it can be seen that subject ZW is able to represent the geometric shapes that match the objects in the problem, then subject ZW investigates the net of the geometric shapes that he drew so that it is found that the shape needs to be searched for all parts of the net. However, subject ZW made a mistake in determining the surface area of the cylinder because subject ZW forgot to multiply the base area by 2 so that subject ZW only added the base area and the surface area of the cylinder. This is because subject ZW has little time to work on it.

ISSN 2356-2684 (print), ISSN 2477-1503 (online)

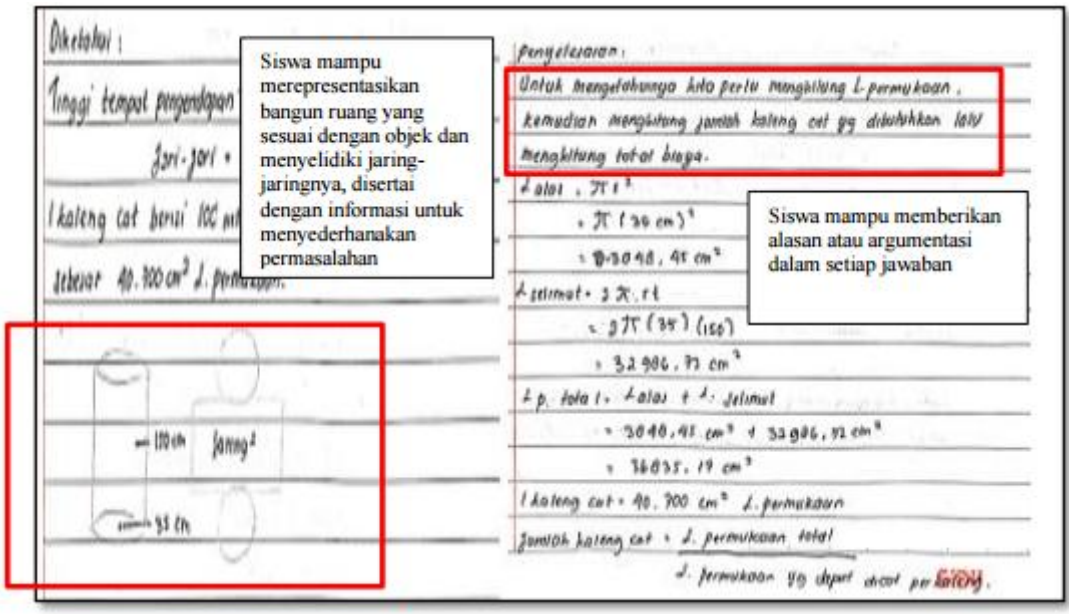

Figure 4. Subject ZW's Answer

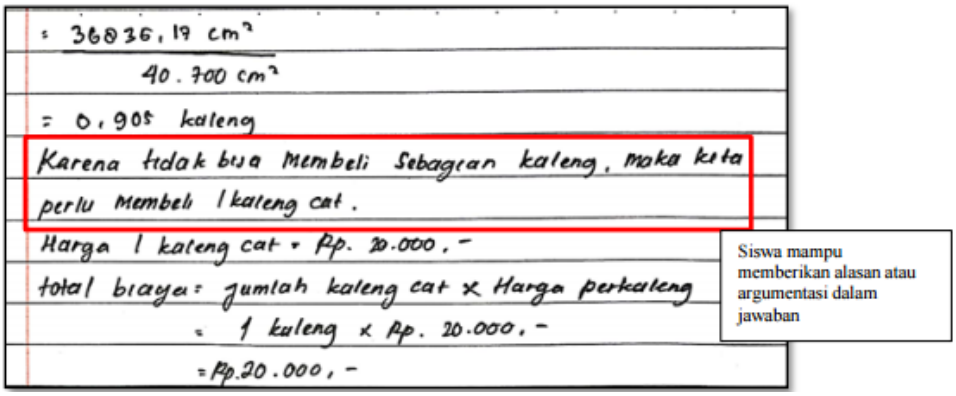

Figure 5. Subject ZW's Argument or reason

Although there was an error in the calculation, when working on the solution steps in the problem, subject ZW was able to come up with the right reasons/arguments where subject ZW rounded the results he got because he could not buy some of the paint cans. So based on this, subject ZW obtained the right conclusion in the problem, namely as follows.

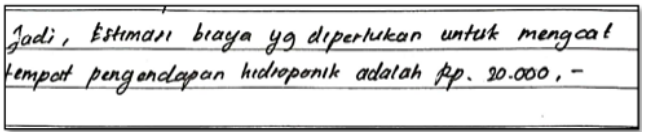

Figure 6. Conclusion of ZW Subject

So based on this, subject ZW was able to produce all indicators of rationalism values for question number 1 but subject ZW did not work on question number 2 because of lack of time. Subject NF is a subject who has low ability. Subject NF was able to produce all indicators of rationalism values when working on test question number 1. Subject NF produced indicators of representing objects and investigating geometric shapes, writing information to simplify problems and drawing conclusions. However, subject NF has not produced indicators of providing reasons or arguments for the solution steps. Here is subject NF's answer to question number.

ISSN 2356-2684 (print), ISSN 2477-1503 (online)

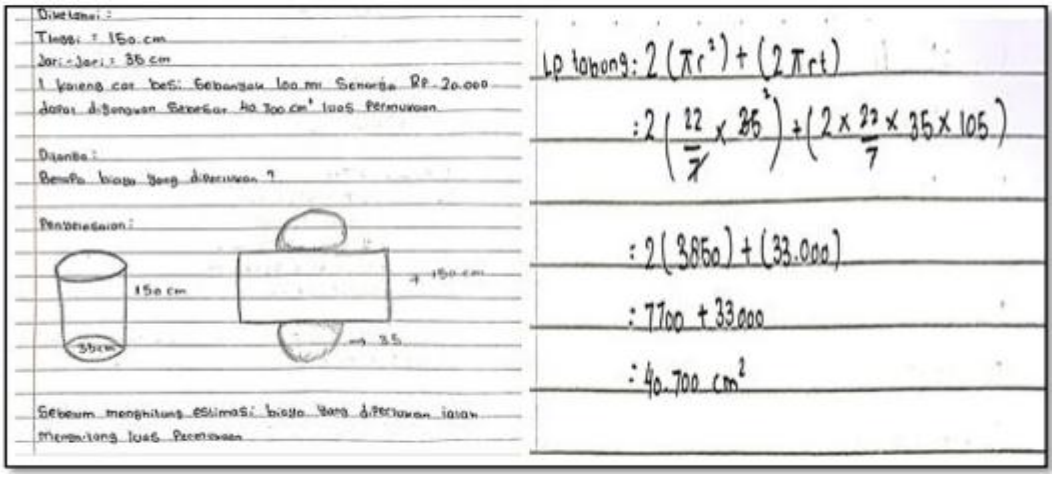

Figure 7. Subject NF's answer

Based on the answers to the NF subject test, it can be seen that the NF subject is able to represent the appropriate geometric shapes and then investigate the geometric nets accompanied by information to simplify the problem, then on that basis the NF subject calculates the surface area of the cylinder correctly by directly adding the area of the base, lid, and cover of the cylinder then the NF subject is able to draw conclusions based on the solution steps. But there is something unique on the NF subject sheet presented in the image below:

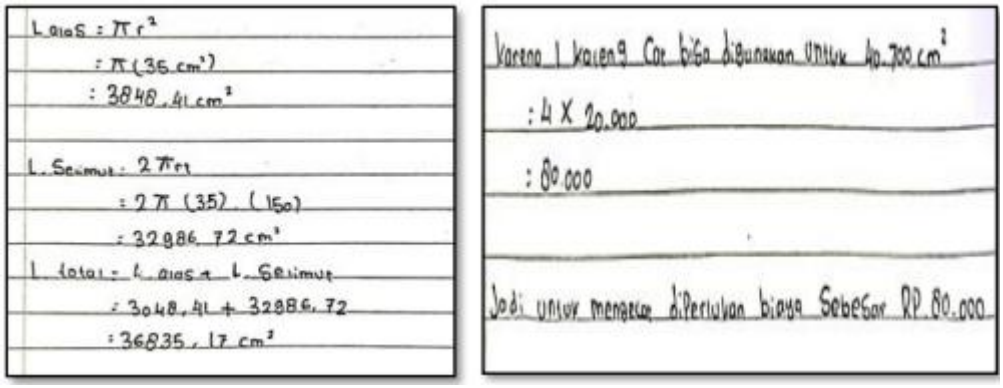

Figure 8. NF Subject Work Procedure

Subject NF recalculated the surface area of the cylinder by calculating per section, consisting of the base area and the surface area used to compare the results. It turned out that the results he got were different because subject NF made a mistake in not calculating the lid area or multiplying the base area he got by 2. During the interview, it was found that subject NF was only focused on memorizing the formula and trying to compare it with the concept of the surface area of a geometric figure through the nets he had learned from the LKPD. Then subject NF gave a reason for his answer, but it was not relevant to the answer he got. So the researcher clarified subject NF's answer through an interview. Based on the interview, it turned out that subject NG was unable to provide the right reasons/arguments so that the indicator for providing arguments from the answers given did not appear.

The data obtained were processed based on the rationalism value indicators proposed by Zhang (2019), and Hapsari (2018), namely (1) Students represent geometric figures and investigate geometric nets to simplify problems, (2) Students provide reasons/arguments for the answers they give, and (3) Students draw conclusions from mathematical solutions. The results of the study showed that these values emerged by using digital worksheets in the agrotourism context on the surface area of curved-sided geometric figures. The subject will represent the appropriate geometric figure on the problem object then write down information and investigate the geometric net to simplify the problem. Students must be able to understand the problem, be able to design mathematical modeling, be able to calculate the model, and explain in their own language the resulting solution (Rozalina & Nurdalilah, 2022). Students' ability to solve mathematical problems, explain all ideas, information with a thinking process

ISSN 2356-2684 (print), ISSN 2477-1503 (online)

with the right and clear solution method is also the scope of mathematical problem-solving abilities (Nasution, 2019). Primrose's research (2023) stated that students' difficulties in learning curved-sided geometric shapes are visualizing and representing because they need the ability to understand typical geometric properties and then have difficulty imagining three-dimensional objects that can make students wrong in visualizing them. In the study (Marasabessy et al., 2021) it was explained that the problems with curved-sided geometric shapes are related to difficulties in using concepts, difficulties in understanding questions, and difficulties in solving story problems. In addition, curved-sided geometric shapes are also considered abstract by students (Khalisa et al., 2021). So interactive learning media are needed to help students visualize curved-sided geometric shapes so that students can more easily understand the concepts of volume and surface area (Primrose, 2023).

The first indicator of students representing geometric shapes and investigating geometric nets to simplify the problem. The results of this study indicate that the subject will represent the appropriate geometric shape on the object contained in the problem, so that it becomes the basis for writing information that is in accordance with the mathematical object in this case the cylinder. Eniza's research (2024) states that students have difficulty in interpreting mathematical situations rationally by representing the answer in the form of mathematical symbols and making pictures and writing captions on the pictures, namely the known aspects of the problem. Subjects with high and medium abilities, as well as low, are able to represent objects in agrotourism into mathematical objects and then write down the appropriate information from the problem related to the surface area of the cylinder. Then the subject investigates the appropriate cylinder nets on the problem object to determine how to calculate the surface area of the cylinder, the subject imagines what the shape of the cylinder net is on the problem object, this is used as a basis for calculating the surface area of the cylinder which will then obtain a solution to the problem. This is supported by research conducted by Siregar (2023) that there is a significant increase in mathematical problem solving abilities and students' skills in investigating and identifying problems with the help of digital worksheets compared to conventional models. Then research by Sari (2024) which states that digital worksheets help improve students' abilities in visualizing mathematical concepts supported by the relevance of the development of the times.

The second indicator is that students provide reasons/arguments for the answers they give. In this step, students are expected to be able to provide reasons for the answers they get. The results of the study showed that students with high and medium abilities were able to complete the solution by stating the right reasons so that they could find the right solution, the subjects investigated the nets by imagining objects, and students provided reasons in each step of the solution so that students were able to draw conclusions in solving problems. This shows that learning with digital worksheets can develop skills in investigation. During learning, students collect information and have arguments when presenting answers through digital worksheets and group discussions, this gives rise to rationalism values in students when looking for solutions (Wahyuni, 2023). Then research by Butarbutar (2024) stated that students predominantly need digital worksheets as teaching materials, especially in geometry learning to provide reasons for a decision. However, in low-ability subjects, they have not been able to produce indicators, in the test answers there are sentences in the form of arguments/reasons from the subject, but when explored in interviews the subjects were unable to explain the arguments and the arguments given on the test sheet were not relevant to the answers below. This is in line with Bishop's statement (2001) stating that "consider how would you respond to the following question and how your value influences your decision". This means that whatever the response from the student's answer will affect the value of his decision. Based on the interview results, it turns out that students have not been able to provide responses and reasons appropriately so that the indicator of providing arguments from the answers given does not appear.

The third indicator is making conclusions. In this indicator, students are expected to be able to draw conclusions by finding solutions to existing problems after the investigation process. The results of the study showed that students were able to make conclusions with high-ability subjects and were writing conclusions correctly. This is supported by research by Munika (2021) which states that digital worksheets are effective in helping students think critically, especially in drawing conclusions, while low-ability subjects make conclusions with wrong results because students are fixated on the formulas written in their textbooks. This is in accordance with research conducted by Winarso & Toheri (2017) which states that students' misconceptions are due to memorizing formulas, and students' low spatial abilities and to overcome misconceptions. Digital worksheets with geometry content in the context of

ISSN 2356-2684 (print), ISSN 2477-1503 (online)

agrotourism on the surface area material of curved side geometric shapes can bring up indicators of rationalism values, where digital worksheets can help students model mathematics/simplify problems from story problems with the context of agrotourism into mathematical concepts, this is in line with research conducted by Hermawan (2022) which states that digital worksheets have the principle of presenting problems related to real contexts so that students can describe them into mathematical concepts that have been taught. Digital worksheets can also help students in examining the problems presented (Astuti, 2021). In addition, the use of digital worksheets can improve students' mathematical representation abilities, this is shown by the increase in students' mathematical representation abilities using digital worksheets (Ayuni et al., 2020). In addition, digital worksheets with geometry content in the context of agrotourism support students to provide stimuli so that students provide reasons/arguments based on their answers. This is supported by research conducted by Novitasari (2022) which states that activities on digital worksheets direct students to think critically and systematically, one of which is that students are required to provide arguments or beliefs and answers in solving problems presented, especially in everyday life. Digital worksheets also help students emphasize ways of thinking that have arguments and lead to drawing relevant conclusions (Gunawan, 2020).

CONCLUSION

Based on the results of the study, it was concluded that all indicators of rationalism values emerged by using digital worksheets of geometry content in the context of agrotourism on the surface area of cylinders. Students can produce indicators of representing geometric figures and investigating geometric nets to simplify problems, providing reasons/arguments for the answers they give, and drawing conclusions from solving problems. The most frequently appearing indicator is that students represent geometric figures and investigate appropriate nets to simplify problems, while the indicator that rarely appears is that students provide arguments/reasons for their answers. The most dominant cause of errors is students' errors in understanding mathematical concepts in the form of surface areas of geometric figures where students are fixated on memorizing formulas so that students make mistakes in their calculations and one other factor is the limited time in working on the test. In this study, students were still less accustomed to utilizing digital technology, so teachers are advised to accustom students to using digital worksheets so that students can adapt to utilizing technology in learning. In addition, the use of digital worksheets can be an alternative in the learning process, especially to bring out rationalism values. In addition, students can build knowledge and learning experiences according to the nature of the times so that students' adaptation to digital learning is getting better.

BIBLIOGRAPHY

Adawiyah, R., et. al. (2021). Peningkatan Ketuntasan Hasil Belajar Siswa Sekolah Dasar pada Pembelajaran Tematik Melalui E-LKPD dengan Bantuan Aplikasi Google Meet. *Jurnal Basicedu, 5 (2),* 3393-3398. https://doi.org/10.31004/basicedu.v5i5.1339

Andersson, A., & Österling, L. (2019). Democratic actions in school mathematics and the dilemma of conflicting values. *Values and valuing in mathematics education*. ICME-13 Monographs. Springer, Cham. https://doi.org/10.1007/978-3-030-16892-6_5

Astuti, A. (2021). Pengembangan Lembar Kerja Peserta Didik (LKPD) Berbasis Problem Based Learning (PBL) untuk Kelas VII SMP/MTs Mata Pelajaran Matematika. *Jurnal Cendekia : Jurnal Pendidikan Matematika, 5(2),* 1011–1024. https://doi.org/10.31004/cendekia.v5i2.573

Ayuni, Q., Noer, S. H., & Rosidin, U. (2020). Pengembangan Lembar Kerja Peserta Didik Berbasis Problem Based Learning Dalam Meningkatkan Kemampuan Representasi Matematis Siswa. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika, 9(3),* 694. https://doi.org/10.24127/ajpm.v9i3.2747.

Bishop, J. H., Mane, F., Bishop, M., Moriarty, J., Murnane, R., & Steinberg, L. (2001). The role of end-of-course exams and minimum competency exams in standards-based reforms. *Brookings papers on education policy*, (4), 267-345. https://doi.org/10.1353/pep.2001.0002

Butarbutar, T. K., Wardono, W., & Waluya, B. (2024). Kebutuhan Bahan Ajar Matematika dalam Melatih Kemampuan Berpikir Kritis Siswa pada Materi Geometri. *In PRISMA, Prosiding*

ISSN 2356-2684 (print), ISSN 2477-1503 (online)

*Seminar Nasional Matematik*a (pp. 470-474). https://proceeding.unnes.ac.id/prisma/article/view/2990

Eniza, S., Rahmat, T., Firmanti, P., & Medika, G. H. (2024). Berpikir Kreatif Siswa Ditinjau dari Kemampuan Matematika dalam Menyelesaikan Soal Cerita. *Jurnal Pendidikan Tambusai, 8(1),* 15876-15887. https://doi.org/10.31004/jptam.v8i1.14637

Fauzi, F., Vitoria, L., Darnius, S., & Israwat, I. (2021). Developing students' creative thinking skills through problem solving approaches to geometry materials in grade 5 of private elementary school Banda Aceh. In *Proceedings of The 11th Annual International Conference (AIC) on Social Sciences* (pp. 375). Universitas Syiah Kuala, Banda Aceh, Indonesia, September 29–30, 2021. https://jurnal.usk.ac.id/AICS-Social/article/view/24375/15305

Gunawan, D., Sutrisno, S., & Muslim, M. (2020). Pengembangan Perangkat Pembelajaran Matematika Berdasarkan TPACK untuk Meningkatkan Kemampuan Berpikir Kritis. *Jurnal Pendidikan Matematika, 11(2),* 249-261. http://dx.doi.org/10.36709/jpm.v11i2.11518

Hapsari, T. (2018, March). Nilai-Nilai dalam Matematika. *In Prosiding Seminar Nasional Matematika dan Pendidikan Matematika (SNMPM)*. 2(1), 123-131 https://repo.ugj.ac.id/file/dosen/43654494.pdf

Hermawan, A. E., Leksono, I. P., & Rusmawati, R. D. (2022). Lembar Kerja Peserta Didik (LKPD) Digital Matematika Berbasis STEM dengan Edmodo. *Didaktis: Jurnal Pendidikan dan Ilmu Pengetahuan, 22(3),* 353-366. https://doi.org/10.30651/didaktis.v22i3.13733

Khalisa, A. M., Herlina, S., Suripah,), & Yolanda, F. (2021). Pengembangan Media Pembelajaran Matematika Menggunakan Macromedia Flash 8 Pada Materi Bangun Ruang Sisi Lengkung Kelas IX [Development of Mathematics Learning Media using Macromedia Flash 8 on Curved Side Space Building for Class IX]. *Perspektif Pendidikan Dan Keguruan, XII(2)*. https://doi.org/10.25299/perspektif.2021.vol12(2).9371

Marasabessy, R., Hasanah, A., & Juandi, D. (2021). Bangun Ruang Sisi Lengkung dan Permasalahannya dalam Pembelajaran Matematika: Suatu Kajian Pustaka. *EQUALS: Jurnal Ilmiah Pendidikan Matematika*, *4*(1), 1–20. https://doi.org/10.46918/equals.v4i1.874

Midroro, J. N., A. H. B. Prastowo, dan L. Nuraini. (2021). Analisis Respon peserta didik SMA Plus Al-Azhar Jember terhadap modul fisika digital berbasis Articulate Storyline 3 pokok bahasan Hukum Newton tentang Gravitasi. *Jurnal Pembelajaran Fisika. 10(1)*. 8-14 https://doi.org/10.19184/jpf.v10i1.23762

Munika, R. D., Marsitin, R., & Sesanti, N. R. (2021). E-LKPD berbasis problem based learning disertai kuis interaktif matematika untuk meningkatkan kemampuan berpikir kritis. Jurnal Tadris Matematika, 4(2), 201–214. https://doi.org/10.21274/jtm.2021.4.2.201-214

Nasution, A. S., & Rangkuti, D. E. S. (2019). Pengembangan bahan ajar matematika berbasis masalah untuk meningkatkan kemampuan pemecahan masalah siswa. *Prosiding Seminar Nasional & Expo Hasil Penelitian Dan Pengabdian Masyarakat, 1(2)*, 608–617. https://www.e-prosiding.umnaw.ac.id/index.php/penelitian/article/download/231/248

Novitasari, F., & Puspitawati, R. P. (2022). Pengembangan E-LKPD Berbasis Problem Solving pada Materi Pertumbuhan dan Perkembangan untuk Melatih Keterampilan Berpikir Kritis Siswa Kelas XII SMA. *Jurnal Inovasi Pembelajaran Biologi, 3(1),* 31-42. https://doi.org/10.26740/jipb.v3n1.p31-42

Nurhayati, M., & Darmawijoyo, D. (2023). Pengembangan Bahan Ajar Pemodelan Matematika dan Efek Potensialnya Terhadap Persepsi Matematika Siswa SMA: Studi Kasus. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, 7(3), 2765-2781. https://doi.org/10.31004/cendekia.v7i3.2432

Primrose, A. T., Falah, M. F. N., Rifqi, M. I., Mauliya, D. F., & Mukti, T. (2023). Engklek Etno-Game dengan BRUSLE Android Apps Sebagai Media Pembelajaran Matematika untuk Mereduksi Miskonsepsi Siswa. *GAUSS: Jurnal Pendidikan Matematika*, 6(1), 1-11. https://doi.org/10.30656/gauss.v6i1.6489

Rozalina, S., & Nurdalilah, N. (2022). Analisis kemampuan pemecahan masalah dengan menerapkan blended learning berbantuan edmodo. *Journal of Didactic Mathematics, 3(3),* 143–150. https://doi.org/10.34007/jdm.v3i3.1577

ISSN 2356-2684 (print), ISSN 2477-1503 (online)

Ristiana, N., Prahmana, R. C. I., & Shahrill, M. (2024). Math trace of a Million Flowers City: Learning two-dimensional using Ethno-RME and MathCityMap.Jurnal Riset Pendidikan Matematika, 11(2), 90-105. https://doi.org/10.21831/jrpm.v12i2.77850

Salami, M. (2020). Model Pembelajaran Matematika Berbasis Karakter. *Jurnal Ilmiah Mahasiswa Raushan Fikr, 9(2),* 98-111. http://dx.doi.org/10.24090/jimrf.v9i2.4154

Sari, N. P., & Tyaningsih, R. Y. (2024). Optimalisasi Pemanfaatan Media GeoGebra dan Lembar Kerja Peserta Didik (LKPD) untuk Meningkatkan Pemahaman Materi Dimesi Tiga. *Griya Journal of Mathematics Education and Application*, 4(2), 127-135. https://doi.org/10.29303/griya.v4i2.463

Setiawati, R.Y. (2018). Analisis Nilai Matematika (Mathematical Values) Peserta didik Pada Pembelajaran Pemecahan Masalah di SMA Negeri 1 Indralaya. Skripsi. Indralaya : FKIP UNSRI

Siregar, T. (2023). *Penerapan model pembelajaran Problem-Based Learning untuk meningkatkan prestasi belajar matematika siswa di SMA Negeri 1 Sinunukan*. COMPETITIVE: Journal of Education, 2(2), 94–102. https://doi.org/10.58355/competitive.v2i2.9

Wahyuni, K. (2023). PENGARUH MODEL PROBLEM BASED LEARNING TERHADAP KEMAMPUAN BERPIKIR KRITIS SISWA KELAS V SDN 128 HAUR PANCUH TAHUN PELAJARAN 2022/2023 (Penelitian Quasineksperimen pada Siswa Kelas V Sekolah Dasar Negeri 128 Haur Pancuh Kota Bandung) (Doctoral dissertation, FKIP UNPAS).

Winarso, W., & Toheri, T. (2017). A case study of misconceptions students in the learning of mathematics; The concept limit function in high school.Jurnal Riset Pendidikan Matematika, 4(1), 120-127. http://dx.doi.org/10.21831/jrpm.v4i1.12060

Yayuk, E.(2019). Pembelajaran Matematika Sekolah Dasar (Vol. 1). UMMPress.

Zhang, Q. (2019). Values in Mathematics Learning: Perspectives of Chinese Mainland Primary and Secondary Students. In: Clarkson, P., Seah, W., Pang, J. (eds) Values and Valuing in Mathematics Education. ICME-13 Monographs. Springer, Cham. https://doi.org/10.1007/978-3-030-16892-6_13

ISSN 2356-2684 (print), ISSN 2477-1503 (online)