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STUDENTS MATHEMATICAL REPRESENTATION ON FLAT-SIDED SPACE BUILDING MATERIAL BASED OF GENDER AND PERSONALITY TYPE

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ABSTRACT
Mathematical competencies which should students have is mathematical representation. Students' mathematical representation can be influenced by various elements, such as gender and personality type. The research objectives are to describe students' mathematical representation retrieved from gender and personality type thinking and feelin. This research includes qualitative research with data collection method in the form of a test and interview. Four students from class VIII-C became the subjects. The subjects were choosed using purposive sampling technique consisting of male and female students of thinking personality as well as male and female students of feeling personality. The findings looked that both male and female thinking personality have highly mathematical representation where only visual representation and mathematical expression representation indicators can be fulfilled by them. Furthermore, male students of feeling personality have moderate mathematical representation where only visual representation and mathematical expression indicators can be fulfilled. Meanwhile, female students of feeling personality have moderate mathematical representation where only visual representation indicators are fulfilled.
Keywords: *Building space; gender; mathematical representation; personality type*

ABSTRAK
Kompetensi matematika yang peranannya penting dimiliki siswa adalah representasi matematis. Berbagai elemen yang berpengaruh terhadap representasi matematis, diantaranya gender dan tipe kepribadian. Tujuan penelitian yaitu mendeskripsikan representasi matematis siswa berdasarkan gender dan tipe kepribadian thinking serta feeling. Penelitian kualitatif ini dengan metode pengumpulan datanya berupa tes dan wawancara. Empat siswa kelas VIII-C menjadi subjek penelitian dan dipilih secara purposive sampling sehingga diperoleh subjek laki-laki dan perempuan kepribadian thinking serta subjek laki-laki dan perempuan kepribadian feeling. Temuan penelitian menunjukkan baik siswa laki-laki dan perempuan kepribadian thinking keduanya representasi matematisnya tinggi dimana hanya indikator representasi visual dan representasi ekspresi matematis yang dapat dipenuhi oleh mereka. Selanjutnya, siswa laki-laki kepribadian feeling representasi matematisnya sedang hanya dapat terpenuhi indikator representasi visual dan ekspresi matematisnya. Sementara itu, siswa perempuan kepribadian feeling representasi matematisnya sedang hanya indikator representasi visual yang dipenuhinya.
Keywords*: Bangun ruang; gender; representasi matematis; tipe kepribadian*

Introduction

NCTM recommends that there are five main mathematical competency standards that students need when learning mathematics, including reasoning, connection, communication, representation, and problem solving (Youlanda et al.,

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2022). Meanwhile, Sabrina & Effendi, (2022) explained that mathematical representation refers to students' skills when expressing mathematical concepts or ideas in various statements. More, Mainali, (2021) explained that mathematical representation is one of the important things to develop students' thinking skills in learning mathematics where they can transform one mode of representation to other modes based the mathematical task. In this case, students can communicate their mathematical concepts more easily when they use mathematical representations such as pictures, diagrams, graphs, and symbols (Idharwati et al., 2019).

This is supported by opinion of Randa et al., (2023) which outlines how students can use their mathematical representations to assist in communicating concepts or information encountered when experiencing difficulties during the learning process. Difficult math problems become easy if the mathematical representation is correct, on the other hand, math problems become more complicated if the mathematical representation used by students is not correct. This indicates that mathematical representation is one of the important components that need to be mastered in learning mathematics.

Based on the findings Riescillia et al., (2023) mentioned according to the TIMSS survey, Indonesia's level of mathematical representation is still quite low where in 2015 Indonesia has a percentage of mathematical ability with a score of 397 points and occupies 44th place out of 49 participating countries. Not much different with Mulyaningsih et al., (2020) mentioned that only about 28% of students could reach level 2 in topics related to mathematical representation in the 2018 PISA findings in mathematics, compared to the OECD average of 76%. Same with the findings of Kusmaryono & Dwijanto, (2016) which suggests that students' mathematical representations are still relatively weak in learning mathematics because students tend to be accustomed to copying the solution steps that have been demonstrated by the teacher, making students less able to channel the representation of ideas in their thinking. One of the materials that need to be understood and has a relationship with representation is flat-sided space (Agustin et al., 2021). When faced with these material problems, most students have difficulty working on them and make mistakes when solving the questions. Similar with Khaerunnisa, (2021) which outlines that there are some students who experience errors in abstracting the problem of building flat-sided spaces and find it difficult to explain the meaning of the problem. On the other, learning mathematics related to mathematical representation, there is one aspect that is influential, namely *gender* (Agustin et al., 2021). In this case, gender is defined as a view of how men and women act and think (Pratama et al., 2023). According to Hanifah, (2018), Female students have superior abilities in the representation of mathematical expressions and visuals in contrast to male students who excel in the representation of written text or words.

Another *gender*, the different of characteristic students when finishing mathematic problem especially in representation mathematic actually are also affected by the type of personality (Saraswati et al., 2022). According to Paradilla & Hasanah, (2020) defines personality as characteristic related to the way of thinking, feeling and behavior in everyday life. Thus, the student's personality also affects how

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they process, absorb, make decisions and communicate information during learning activities.

David West Keirsey categorizes personality types into various dimensional perspectives including based on how a person makes decisions namely thinking and feeling (Nuron, 2022). While, Ramalisa dalam Hafidhoh et al., (2023) argues that thinking personalities use more critical, logical and objective thinking when making choices in contrast to feeling personalities who consider feelings more in a choice. Similar with Sarah C et al., (2022) which argues that male students usually have a thinking personality because they prioritize thinking using logical reasons rather than feelings. In contrast, this is in contradiction to the prejudice against women who are assumed to base decisions on emotional factors rather than logical resoning (Nur, 2020).

Lestari & Palupi, (2023) which related to mathematical representation in terms of gender differences indicates that when faced with mathematical problems, both women and men have different preferences regarding their mathematical representations. This statement is supported by Hajeniati & Kaharuddin, (2021) who explained that male student's mathematical representations are not as good as female students. Furthermore, research by Hafidhoh et al., (2023) on the ability of student's mathematics including mathematical representation based on personality type indicates that students with thinking personality can represent the information correctly in contrast to students with feeling personality who cannot represent information correctly. This situation shows that between thinking and feeling personality students have contradictory thinking. Based on some of these studies, the different between this research and previous research is that previous research analyzes mathematical representations in terms of gender or personality type only while this research analyzes student's mathematical representations not only in terms of gender but also with personality types for thinking and feeling. Thus, this research can make a new contribution related to mathematical representation ability that is matched with gender and personality type of students.

Based on the background information given, the research aims to describe students' mathematical representations based on gender and personality types of thinking and feeling.

Research Methods

The researcher selected descriptive qualitative research. The research location was at SMPN 2 Gondang. This researcher was conducted on four students of class VIII-C SMPN 2 Gondang according to the recommendation of the school teacher who was selected based on particular considerations using purposive sampling technique. In this case, purposive sampling technique is a technique in selecting research subjects based on certain considerations (Sabrina & Effendi, 2022). Meanwhile, the classification of students' personality uses a personality type questionnaire. The personality type questionnaire used includes a closed questionnaire contains 20 statement items where each statement has two answer options that represent each personality. From the results of the questionnaire, male and female students of thinking personality and male and female students of feeling personality were chosen. Furthermore, data collection in the study was carried out through mathematical representation tests along with interviews to explore

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students' thinking in depth. The mathematical representation test instrument used a mathematical representation test question sheet with 2 questions related to flat-sided space building material. Furthermore, the interview used an interview guideline which contained questions related to the results of the answers to the students' mathematical representation tests. Next, the researcher used the classification of mathematical representations which was adopted from Yanti & Abdullah In Hi, (2023) as in Table 1 below as a measuring point for the level of students' mathematical representation:

Table 1. Classification of Mathematical Representations

No	Score	Category
1	86 – 100	Very High
2	71 – 85	High
3	56 – 70	Medium
4	0 - 55	Low

Based on Tabel 1 above, it shows that students who score 86-100 have very high mathematical representation. Students who score 71-85 are considered to have high mathematical representation. Students who score 56-70 have medium mathematical representation. Students who score 0-55 include having low mathematical representation. In the technical phase of data analysis, researchers use the Miles and Huberman Model analysis. Sugiyono, (2015) said Miles and Huberman analyzed data including data reduction, data presentation, and conclusion.

Results and Dicussion

On Table 2 below shows the evaluation and classification of each research subject:

Table 2. Categorization of Mathematical Representation

No.	Initials	*Gender*	Personality Type	Score	Category
1.	ARK	L	*Thinking*	75	High
2.	GNA	P	*Thinking*	80	High
3.	MFI	L	*Feeling*	70	Medium
4.	ARHN	P	*Feeling*	55	Medium

Based on Table 2 above, the data obtained from the mathematical representation test results where ARK with male gender personality type thinking has mathematical representation in the high category. GNA with female gender of thinking personality type has mathematical representation in high category. Meanwhile, MFI with male gender of feeling personality type has medium mathematical representation. ARHN with female gender of feeling personality type has medium mathematical representation. Furthermore, the test result data based on mathematical representation indicators are displayed by the researcher. These indicators consist of visual representation, mathematical expression, and verbal representation along with the codes are shown in Table 3 below:

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Table 3. Mathematical Representation Indicator Coding

No	Indicator	Question Number	Code
1	Visual Representation		
	a. Able to make drawings to illustrate the problem.	1	1a
	b. Able to determine the right picture according to the problem.	2	2a
2	Mathematical Expression Representation		
	a. Able to determine the right mathematical formula according to the problem.	1	1b.i
	b. Able to utilize mathematical formulas in solving problems		
3	Verbal Representation		
	a. Able to write down the problem situation based on the information given.	1	1b.ii
		1	1c
	b. Able to write the explanation in words.	2	2b

1. Subject ARK with male gender personality thinking

a. Visual Representation

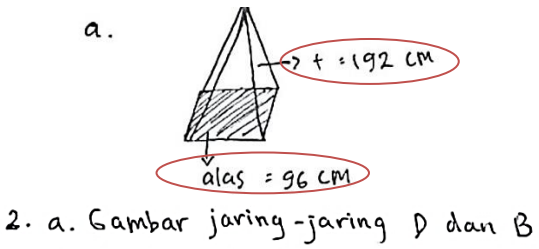

Figure 1. ARK answers part 1a and 2a

Based on Figure 1, in the visual representation aspect for indicator 1a, ARK is correct in illustrating the image of the pyramid. Same with Hafidhoh et al., (2023) who mentioned that students with thinking personality can represent the shape of the picture. Although, there are still errors in writing the size on each side. For indicator 2a, ARK is correct in determining the two images of the nets of the quadrilateral pyramid by writing the names according to the selected image. Thus, ARK subject was able to fulfill the visual representation indicator.

b. Mathematical Expressions representation

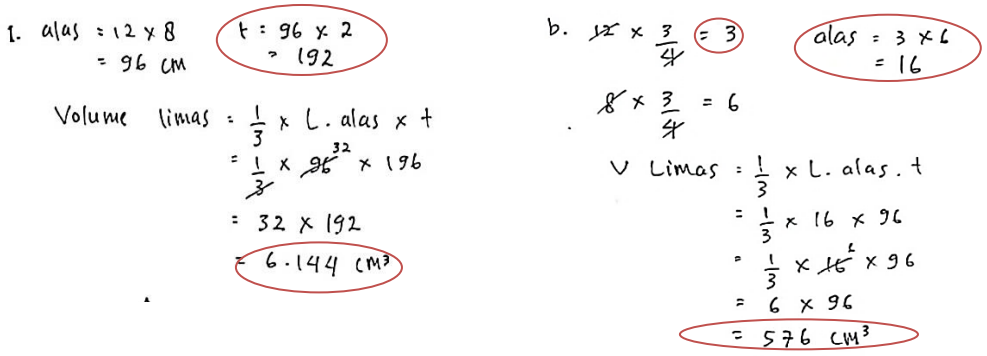

Figure 2. ARK answer part 1b.i

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Based on Figure 2, in the representations aspect of mathematical expression for indicator 1b.i ARK is able to determine the appropriate mathematical formula to solve the problem. However, ARK still has errors in counting the height of the pyramid and the base of the pyramid due to lack of accuracy. According with Syaifar et al., (2022) which explains where male students still have some mistakes when calculating the height of the pyramid. Therefore, for the calculation of the final result of the volume of the pyramid before and after the base side is decreased there is an error. However, in calculating the two volumes of the pyramid, ARK subjects have been able to involve the mathematical formula and calculate with detailed completion steps. Youlanda et al., (2022) explained that students with high mathematical representation were able to finish the symbolic calculation very well. This shows that the ARK has been able to fulfill the indicators of mathematical expression representation.

c. Verbal Representation

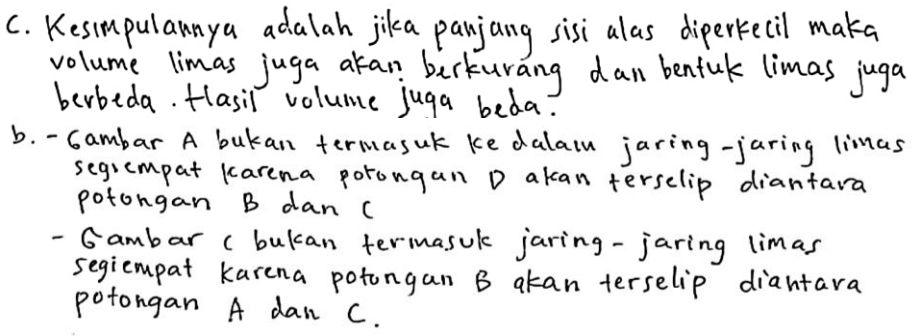

Figure 3. ARK answers part 1c and 2b

Based on Figure 3, In the verbal representation aspect for indicator 1b.ii, subject ARK did not write the problem situation based on information from the problem. Mulyaningsih et al., (2020), argued that most students do not write the problem situation, related to the question and what they know. Meanwhile, for indicator 1c, ARK subject was able to write the conclusion based on the calculation of the two pyramid volumes correctly and in detail. For indicator 2b, subject ARK was able to write an explanation of the reason for the error for the quadrilateral pyramid nets correctly and in detail even though there was less precise use of vocabulary. So in this case, subject ARK for the verbal representation indicator could not fulfill because it did not write the problem situation.

2. Subject GNA with female gender personality thinking

a. Visual Representation

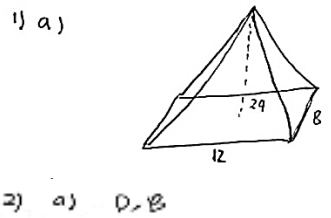

Figure 4. GNA answers part 1a and 2a

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Referring to Figure 4, in the visual representation aspect for indicator 1a, the GNA subject is correct in making an illustration of the image of the pyramid space and is able to write the size of the pyramid space based on problem information correctly and completely so that it can clarify the problem. Similar to the research of Hafidhoh et al., (2023) which argues that thinking personality students are able to visualize an image. For indicator 2a, the GNA subject is correct in determining the two images of the nets of the quadrilateral pyramid by writing the letters according to the selected image. Similar to the opinion of Umaroh & Pujiastuti, (2020) which argued that female students are able to make visual representations well. Thus, for mathematical representation ability seen from the visual representation aspect, it shows that GNA is able to fulfill the visual representation indicators.

b. Expressions Mathematical Representation

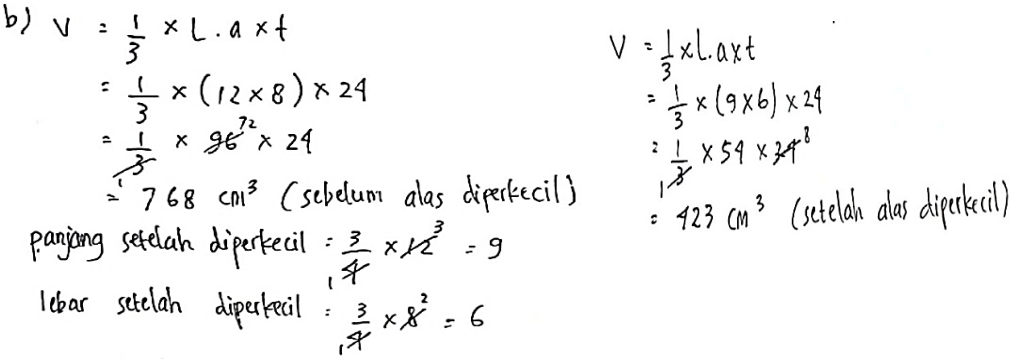

Figure 5. GNA answer part 1b.i

Referring to Figure 5, in the representational aspect of mathematical expressions, for indicator 1b.i the GNA subject was able to find the right mathematical formula according to the problem. This is in agreement with Umaroh & Pujiastuti, (2020) who explained that female students are able to determine the right mathematical expression. In addition, the GNA subject is correct in performing calculations using detailed and systematic solution steps. Research by Proboretno & Wijayanti, (2019) also explained that female students can involve mathematical expressions in the solution steps. The final results of the volume of the pyramid before being reduced and after the base is reduced are also correct. Thus, the GNA subject in this case was able to fulfill the mathematical expression representation indicator.

c. Verbal Representation

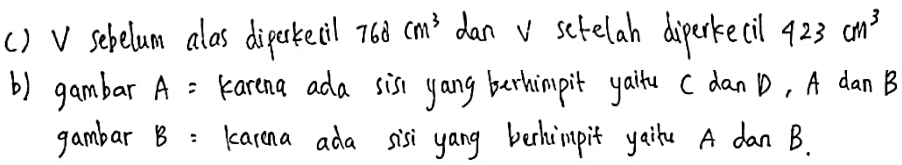

Figure 6. GNA answers part 1c and 2b

In Figure 6, in the aspect of verbal representation for indicator 1b.ii, the GNA subject did not write the problem situation based on information from the problem.

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Meanwhile, in indicator 1c, the GNA subject was able to write the conclusion obtained from the calculation of the two volumes of the pyramid correctly but still in short. For indicator 2b, the GNA subject was able to write an explanation of the reason for the error for the drawing of the nets of the quadrilateral pyramid but there was still an explanation error in one of the drawings. Purborini & Hastari, (2019) suggested that female students have little difficulty when writing problem solving. Thus, the GNA subject has not been able to fulfill the verbal representation indicator. This is in contradiction with Mustangin et al., (2020) which mentions that students with high mathematical representation are able to solve problems related to verbal representation. Although in other cases, the GNA subject was able to write an explanation using words where the subject had written a conclusion but it was quite short.

3. Subject MFI with male gender personality feeling

a. Visual Representation

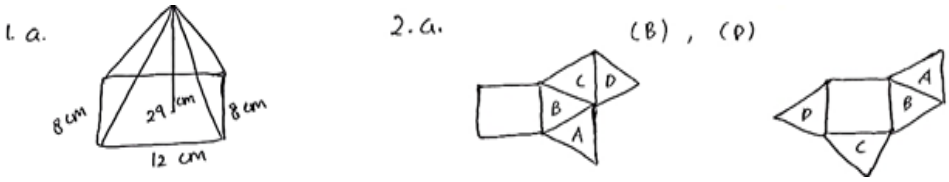

Figure 7. MFI answers part 1a and 2a

Referring to Figure 7, in the visual representation for indicator 1a, the MFI subject was correct in illustrating the image of the pyramid and was able to write the size of the sides of the pyramid according to the information from the problem correctly and completely. For indicator 2a, the MFI subject is correct in determining the two nets of the quadrilateral pyramid by writing the letter complete with the selection of the image. This is same with Ramanisa & Netti, (2020) which explains that students can achieve visual representation in the form of images well. Thus, in this case the MFI subject was able to fulfill the visual representation indicator.

b. Expression Mathematical Representation

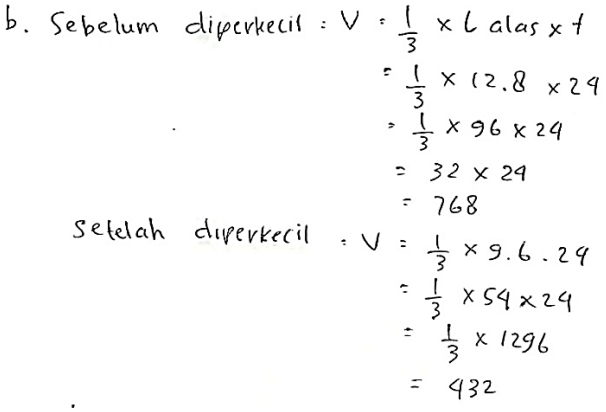

Figure 8. MFI answer part 1b.i

Based on Figure 8, in the aspect of representation of mathematical expressions for indicator 1b.i, MFI subject is able to find the right mathematical formula according to the problem. In agreement with Agustin et al., (2021) who explained

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that male students are able to represent the concept form of mathematical formulas correctly. Furthermore, MFI subjects are correct in performing calculations using the completion steps in detail and systematically. In other sides, the final result of the volume of the pyramid before being reduced and after the base is reduced is also correct. This is in accordance with the research of Hafidhoh et al., (2023) hich describes that feeling personality students can solve problems and get the final answer correctly. Thus, the MFI subject was able to fulfill the mathematical expression representation indicator.

c. Verbal Representation

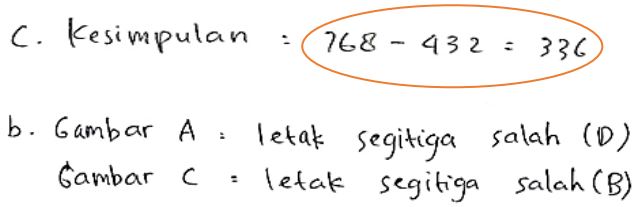

Figure 9. MFI answers part 1c and 2b

In Figure 9, in the verbal representation aspect, for indicator 1b.ii, subject MFI did not write the problem situation based on information from the problem. Meanwhile, in number 1c the MFI subject has not been able to write the conclusion correctly where the subject instead writes the result of subtracting the two volumes of the pyramid which has nothing to do with what is asked. Fauzi & Abidin, (2019) expressed that feeling personality type students are weak in terms of making conclusions on given problems. In line with (Youlanda et al., 2022) which mentions that students whose mathematical representation is moderate in verbal representation indicators still have some errors. For indicator 2b, subject MFI was able to write an explanation of the reason for the error for the nets of the quadrilateral pyramid correctly although it was quite short. Thus, subject MFI has not been able to fulfill the verbal representation indicator because there are errors in the conclusion.

4. Subject ARHN with female gender personality feeling

a. Visual Representation

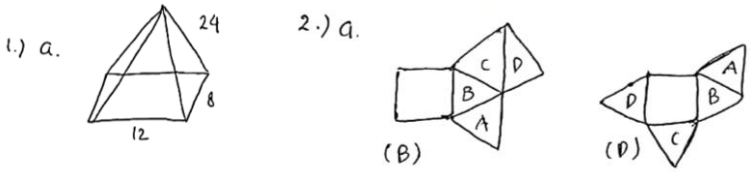

Figure 10. ARHN answers part 1a and 2a

Based on Figure 10, in the aspect of visual representation for indicator 1a, ARHN subject is correct in illustrating the image of the pyramid and writing the size on each side correctly. In agreement with Hartatik & Nafiah, (2020) which argued that it is easier to present image representations than to write or make words. For indicator 2a, ARHN subject was correct in determining the two images of the nets of the quadrilateral pyramid by writing the font complete with the image of the net of

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the pyramid that was his chosen. Thus, showing that ARHN subject was able to fulfill the visual representation indicator.

b. Expression Mathematical Representation

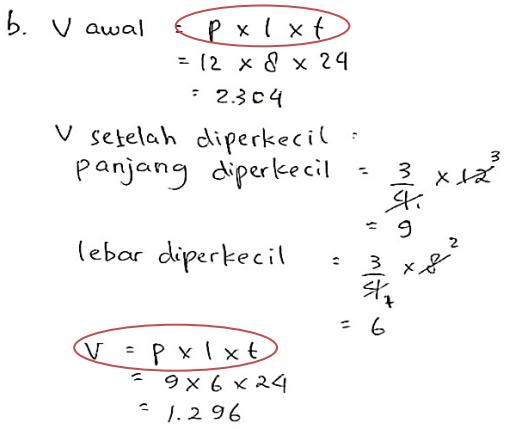

Figure 11. ARHN answer part 1b.i

Based on Figure 11, it shows the results of ARHN subject's answers in the representation aspect of mathematical expression for indicator 1b.i ARHN subject has not been able to use mathematical formulas based on the problem. Purborini & Hastari, (2019) argued that male students are superior in identifying the correct formula pattern concept when solving problems. Even though in the calculation step, the ARHN subject was able to calculate the two volumes of the pyramid with detailed solution steps. In additional, the final results of the two volumes of the pyramid calculations also still have errors because the formula used is not correct.

c. Verbal Representation

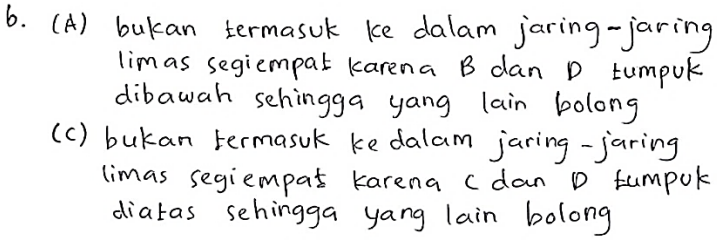

Figure 12. ARHN answer part 1b.ii

Based on Figure 12, in the verbal representation aspect, for indicator 1b.ii, ARHN subject did not write the problem situation based on information from the problem. This is in accordance with Mulyaningsih et al., (2020) who described that most students do not write what is known and asked in problem solving. While on number 1c, ARHN subject did not write the conclusion derived from the calculation of the two pyramid volumes because he did not know how to conclude it. In another case, the ARHN subject in making conclusions still had difficulty in composing the words. This sismiliar with Ramadhana et al., (2022) who explained that in the section of concluding there are still many students who do not write conclusions using words and do not even answer the question. Meanwhile, for indicator 2b, ARHN subject was able to write an explanation of the reasons for the error for the nets of the quadrilateral pyramid correctly although there was still an incorrect use of vocabulary. Thus, ARHN has not been able to fulfill the verbal representation

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indicator even in other cases ARHN subject has been able to write the explanation of the picture correctly.

In this study, none of the four students had low mathematical representation. In terms of mathematical representation, ARK, GNA, and MFI students only fulfill two mathematical representation indicators, which are the visual representation and mathematical expression representation indicators, while ARHN students only fulfill one indicator, which is the visual representation indicator. The most mistakes made by students are relating to their verbal abilities in creating problem situations and difficulties in composing words in conclusions. In the opinion of Rahmawati et al., (2017) which states that the success of students in terms of verbal representation is the least. As a consequence, students who have difficulty composing words tend to be lazy and passive when expressing their thoughts in writing. Because when students are given the challenge to express their thoughts, students also learn to explain the use of mathematical language they have in written and oral form. In addition, the inability of these students causes students to not be optimal in representing their verbal abilities and also inhibits their cognitive abilities. Furthermore, students who tend to experience cognitive inhibition also inhibit their academic abilities (Rahmadani & Daulay, 2023).

Conclusion and Suggestion

Students with male gender personality type thinking in terms of mathematical representation are only able to fulfill the indicators of visual representation and mathematical expression representation. Students with female gender of thinking personality type in terms of mathematical representation are only able to fulfill the visual representation and mathematical expression representation indicators. Students with male gender of feeling personality type in terms of mathematical representation are only able to fulfill visual indicators and mathematical expression representation. Students with female gender of feeling personality type in terms of mathematical representation are only able to fulfill visual representation indicators.

The suggestion that can be recommended is that future researchers are expected to be able to analyze more deeply related to students' verbal representations and can develop the appropriate learning design to improve their verbal representations.

Reference

Agustin, N., Rosyadi, & Taufan, M. (2021). Analisis Kemampuan Representasi Matematis Siswa SMP pada Materi Luas Permukaan Balok Ditinjau dari Perbedaan Gender. *PROSIDING Seminar Nasional Matematika Dan Sains*, 208–212. https://doi.org/10.31980/mosharafa.v10i3.1011

Fauzi, A. M., & Abidin, Z. (2019). Analisis Keterampilan Berpikir Kritis Tipe Kepribadian Thinking-Feeling Dalam Menyelesaikan Soal PISA. *Suska Journal of Mathematics Education*, *5*(1), 1–8. https://doi.org/10.24014/sjme.v5i1.6769

Hafidhoh, A. Z., Wibowo, T., & Purwoko, R. Y. (2023). Analisis Kemampuan Numerasi Berdasarkan Asesmen Diagnostik Tipe Kepribadian Siswa. *JLEB: Journal of Law, Education and Business*, *1*(2), 782–786. https://doi.org/10.57235/jleb.v1i2.1158

Hajeniati, N., & Kaharuddin, A. (2021). Pengaruh Problem Contextual Teaching Learning Terhadap Representasi Matematis Siswa Ditinjau Dari Jenis Kelamin.

Jurnal Karya Pendidikan Matematika, *8*(2), 38–44. https://doi.org/10.26714/jkpm.8.2.2021.38-44

Hanifah, N. (2018). Deskripsi Kemampuan Representasi Matematis Siswa SMP Pada Materi Bangun Datar Ditinjau Dari Perbedaan Gender. *Maju : Jurnal IlmiahPendidikan Matematika*, *5*(2), 133–146.

Hartatik, S., & Nafiah. (2020). Indonesia Kemampuan Numerasi Mahasiswa Pendidikan Profesi Guru Sekolah Dasar dalam Menyelesaikan Masalah Matematika. *Education and Human Development Journal*, *5*(1), 32–42. https://doi.org/10.33086/ehdj.v5i1.1456

Idharwati, T., Rasiman, & Utami, R. E. (2019). Analisis kemampuan representasi matematis siswa smp kelas viii ditinjau dari gaya kognitif field independent. *Senatik*, *1*, 34–40. http://conference.upgris.ac.id/index.php/senatik/article/view/37

Khaerunnisa, E. (2021). Kesulitan Siswa dalam Proses Matematisasi Soal Cerita Materi Bangun Ruang Sisi Datar. *WILANGAN*, *2*(2), 97–108. https://doi.org/10.56704/jirpm.v2i2.11700

Kusmaryono, I., & Dwijanto, D. (2016). Peranan Representasi Dan Disposisi Matematis Siswa Terhadap Peningkatan Mathematical Power. *JIPMat*, *1*(1), 19–28. https://doi.org/10.26877/jipmat.v1i1.1089

Lestari, D. P., & Palupi, E. L. W. (2023). Representasi Matematis Siswa dalam Menyelesaikan Masalah Teorema Pythagoras berdasarkan Tahapan Polya Ditinjau dari Perbedaan Gender. *MATHEdunesa*, *12*(2), 588–610. https://doi.org/10.26740/mathedunesa.v12n2.p588-610

Mainali, B. (2021). Representation in teaching and learning mathematics. *International Journal of Education in Mathematics, Science and Technology (IJEMS)*, *9*(1), 1–21. https://doi.org/10.46328/ijemst.1111

Mulyaningsih, S., Marlina, R., & Effendi, K. N. S. (2020). Analisis Kemampuan Representasi Matematis Siswa SMP dalam Menyelesaikan Soal Matematika. *Jkpm (Jurnal Kajian Pendidikan Matematika)*, *6*, 99–108. https://doi.org/10.30736/vj.v2i1.177

Mustangin, Suwarsono, S., & Lukito, A. (2020). Mathematic concept representation of high ability student in solving algebraic problem. *International Journal of Scientific and Technology Research*, *9*(3), 4402–4406.

Nur, A. I. (2020). Problem Gender dalam Perspektif Psikologi. *Az-Zahra: Journal of Gender and Family Studies*, *1*(1), 46–54. https://doi.org/10.15575/azzahra.v1i1.9253

Nuron, A. Q. (2022). Analisis Penalaran Adaptif Tipe Kepribadian David Keirsey Dalam Pemecahan Masalah Matematika Siswa Kelas 4 Madrasah Ibtidaiyah. *Jurnal PGSD*, *10*(4), 938–947.

Paradilla, N., & Hasanah, U. (2020). the Students ' Extrovert and Introvert. *Internatonal Journal of Research on English Teaching and Applied Linguistics*, *1*(1), 39–50. https://doi.org/10.30863/ijretal.v1i1.1197

Pratama, A., Ma, K., & Islamiyah, N. N. (2023). Konsep Gender Dalam Perspektif Islam. *Jurnal Restorasi Hukum*, *6*(1), 40–50. https://doi.org/10.14421/jrh.v6i1.3039

Proboretno, S., & Wijayanti, P. (2019). Representasi Matematis Siswa SMP dalam Meyelesaikan Masalah Segiempat Ditinjau dari Perbedaan Jenis Kelamin.

MATHEdunesa, *8*(3), 472–476. https://doi.org/10.26740/mathedunesa.v8n3.p472-476

Purborini, S. D., & Hastari, R. C. (2019). Analisis Kemampuan Spasial Pada Bangun Ruang Sisi Datar Ditinjau Dari Perbedaan Gender. *Jurnal Derivat: Jurnal Matematika Dan Pendidikan Matematika*, *5*(1), 49–58. https://doi.org/10.31316/j.derivat.v5i1.147

Rahmadani, A., & Daulay, N. (2023). Analisis Faktor Penyebab Menurunnya Resiliensi Akademik Pada Siswa MTsN. *GUIDENA: Jurnal Ilmu Pendidikan, Psikologi, Bimbingan Dan Konseling*, *13*(2), 417–425. https://doi.org/10.24127/gdn.v13i2.7413

Rahmawati, D., Purwanto, Subanji, Hidayanto, E., & Anwar, R. B. (2017). Process of Mathematical Representation Translation from Verbal into Graphic. *International Electronic Journal of Mathematics Education*, *12*(3), 367–381. https://doi.org/10.29333/iejme/618

Ramadhana, B. R., Prayitno, S., Wulandari, N. P., & Subarinah, S. (2022). Analisis Kemampuan Representasi Matematis pada Materi Barisan dan Deret Berdasarkan Gaya Belajar. *Jurnal Riset Pendidikan Matematika Jakarta*, *4*(1), 46–59. https://doi.org/10.21009/jrpmj.v4i1.23025

Ramanisa, H., & Netti, S. (2020). Analisis Kemampuan Representasi Matematis Siswa. *Jurnal Pendidikan Matematika (Jumadika)*, *2*(1), 34–38. https://doi.org/10.30598/jumadikavol2iss1year2020page34-38

Randa, U., Syamsudin, N., & KHairina. (2023). *Pengaruh Model Pembelajaran SSCS Berbantuan LKPD Terhadap Kemampuan Representasi Matematis SMP/MTs*. 301–310. https://doi.org/10.32672/perisai.v2i3.473

Riescillia, G. N., Pratiwi, L., Muhajir, & Musrifah, S. (2023). Studi Komparasi Kemampuan Representasi Matematis Antara Model pembelajaran Connected Mathematics Project dan problem Based Learning. *Jurnal Lentera*, *5*(1), 39–52. https://doi.org/10.51518/lentera.v5i1.129

Sabrina, K. A., & Effendi, K. N. S. (2022). Kemampuan Representasi Matematis Siswa Pada Materi Kesebangunan. *Jurnal Educatio FKIP UNMA*, *8*(1), 219–228. https://doi.org/10.31949/educatio.v8i1.1969

Sarah C, A. C., Cahyono, A. M., & Rayhan, A. R. (2022). Studi Pustaka: Analisis Gaya Belajar Menurut Pengelompokan Tes Kepribadian Myers Briggs Type Indicator (Mbti). *Flourishing Journal*, *2*(2), 102–109. https://doi.org/10.17977/um070v2i22022p102-109

Saraswati, T. P., Trapsilasiwi, D., Murtikusuma, R. P., Diah, N., Lestari, S., & Wihardjo, E. (2022). Representasi matematis siswa kelas XI dalam pemecahan masalah fungsi ditinjau dari tipe kepribadian sensing-intuition. *Jurnal Penelitian Pendidikan Dan Pengajaran Matematika*, *8*(1), 29–38. https://doi.org/10.37058/jp3m.v8i1.4475

Sugiyono, P. D. (2015). *Metode Penelitian Kuantitatif, Kualitatif dan R & D*. Alfabeta.

Syaifar, M. H., Maimunah, M., & Roza, Y. (2022). Analisis Kemampuan Pemahaman Konsep Matematis Peserta Didik pada Materi Bangun Ruang Sisi Datar Ditinjau dari Gender. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *6*(1), 519–532. https://doi.org/10.31004/cendekia.v6i1.1097

Tupamahu, P. Z., Ratumanan, T. G., & Laamena, C. (2023). Students' Mathematical Representation and Communication Ability in Mathematics Problem Solving.

e-ISSN 2746-5594
p-ISSN 2746-5608

Jurnal Didaktik Matematika, *10*(1), 111–130. https://doi.org/10.24815/jdm.v10i1.29376

Umaroh, U., & Pujiastuti, H. (2020). Analisis Kemampuan Representasi Matematis Siswa dalam Mengerjakan Soal PISA Ditinjau dari Perbedaan Gender. *Jurnal Pendidikan Matematika Raflesia*, *5*(2), 40–53.

Yanti, S., & Abdullah In Hi, dan N. A. (2023). Analisis Representasi Matematis Siswa Dalam Menyelesaikan Soal Matriks Ditinjau Dari Gaya Belajar. *Jurnal Pendidikan Guru Matematika*, *3*(1), 34–39. https://doi.org/10.33387/jpgm.v3i1.5735

Youlanda, L. ., Asikin, M., & Sugiman. (2022). Systematic Literature Review: Students' Mathematical Representation Ability in Mathematics Learning. *Daya Matematis : Jurnal Inovasi Pendidikan Matematika*, *10*(1), 36–44.