VARIABEL VOL. 8 NO. 1 (April 2025): 38-45
p-ISSN: 2593-302X dan e-ISSN: 2599-3038

Profile of Students' Creative Thinking Ability Reviewed from Self-Confidence

Kartika Rusiyaningsih[1], Saudah[2], Gunawan[3], Fitrianto Eko Subekti[4]
Universitas Muhammadiyah Purwokerto, Purwokerto, Indonesia
tikarusiya@gmail.com[1], saudahvitriany9@gmail.com[2], gun.oge@gmail.com[3,*)], efitrians@gmail.com[4]
[*)]Corresponding author

Keywords:
Confidence; Critical Thinking Skills; Math Problems

ABSTRACT
Creative thinking skills are students' ability to find ways or solutions that are unusual, unique, and have never been found by others in solving problems. This study aims to describe the ability to think creatively from the perspective of students' confidence. The research method used was qualitative descriptive, with data collection techniques through questionnaires, tests, and interviews. Questionnaires were used to divide the categories of student confidence, written tests were used to determine creative thinking skills in solving problems, and interviews were used to dig deep into information to obtain information related to problem solving. The subject of this study was sixth-grade VIII students of SMP N 1 Pekuncen. Subjects were grouped into three categories of confidence, namely high, medium, and low, based on the results of the questionnaire, using the purposive sampling technique; two people were taken as subjects in each category. The material used was a two-variable linear equation system. Data analysis techniques included data reduction, data presentation, and a conclusion drawn. The results of the study explained that (1) students with high categories were able to find solutions appropriately and could write down many ways to solve problems; (2) students in the medium confidence category could write down many ways to solve problems but couldnot find the right solution; (3) students with low confidence categories were not able to find the right solution and were unable to write down many ways to solve problems.

INTRODUCTION

Mathematics is one of the basic learning materials that is studied from elementary school to college. This is following Permendikbud No. 58 of 2014 that through mathematics learning, students can have logical, analytical, systematic, critical, innovative and creative thinking skills, as well as the ability to cooperate (Safitri et al., 2021). According to Mualifah et al. (2020), there are five reasons why learning mathematics is important, namely: (1) as a tool to think clearly and logically, (2) as a way to increase awareness of cultural developments, (3) as a method to recognize patterns and generalizations of experience, (4) as a means to hone creativity, and (5) as a way to solve everyday problems.

The problems faced often require several alternative solutions and need to be seen from various perspectives. Sometimes a problem also requires a unique or unique solution (Mauludin & Eko Subekti, 2023). The ability to provide alternative solutions is often called the ability to think creatively (Qudsiyah et al., 2022). The alternative ideas that you have can produce innovative ideas and can be a breakthrough in solving problems based on the analysis of the data and information obtained (Siregar et al., 2020).

According to Febrianingsih (2022), creative thinking skills are students' ability to find ways or solutions that are unusual, unique, and have never been found by others. Creative thinking skills are a person's ability to analyse information and combine unique ideas or ideas to solve problems. Creative thinking ability has four indicators, namely fluency thinking, flexible thinking, original thinking, and elaboration skills (Qomariyah & Subekti, 2021). Therefore, the ability to think creatively needs to be trained and possessed by students. When students are not used to being trained and directed in their creative thinking skills, it will cause laziness in solving difficult problems (Arini, 2017). The ability to think creatively needs to be a common concern, with the hope that students can provide various ideas or new ideas from various perspectives to solve problems. Problems are addressed through different solution steps until solutions and conclusions from the problems faced are obtained through formulation, interpretation, and mathematical modelling according to the given problems (Eviliasani et al., 2018).

Based on the results of previous research, it is shown that students have low creative thinking skills (Eviliasani et al., 2018). Other research shows that the achievement of students' mathematical creative thinking skills is only 59.26%, meaning that most students have been able to work on mathematical creative thinking problems, even though the results have not been maximised (Kadir et al., 2022). There are many factors that cause low creative thinking skills, including student confidence (Mualifah et al., 2020).

Self-confidence is a feeling of confidence in one's abilities that includes good judgment and acceptance of oneself as a whole, acting following what is expected of others so that the individual can be accepted by others and their environment (Fardani et al., 2021). According to Ningsih and Warmi (2021), there are four indicators of self-confidence, namely believing in one's abilities, acting independently in making decisions, having a positive self-concept, and daring to express opinions. In line with Amri (2018) explained that there are four indicators of student confidence, namely confidence in self-efficacy, optimism, objectivity, responsibility, and realistic or rational towards problems.

Research by Dalilan and Sofyan (2022) showed that students' confidence affects students' mathematical creative thinking skills. The higher the confidence of students, the higher the students' mathematical creative thinking ability (Masfufah et al., 2018). Confidence is necessary to develop students' abilities in creative thinking, where students are expected to be able to produce something new, either in the form of ideas or real works, that are quite different from pre-existing works (Putri et al., 2021). Based on the description above, the researcher is interested in describing how the characteristics of creative thinking skills are reviewed from students' confidence. Through this study, it is hoped that it can determine the characteristics of the ability to describe the ability to think creatively from the confidence of students.

RESEARCH METHOD

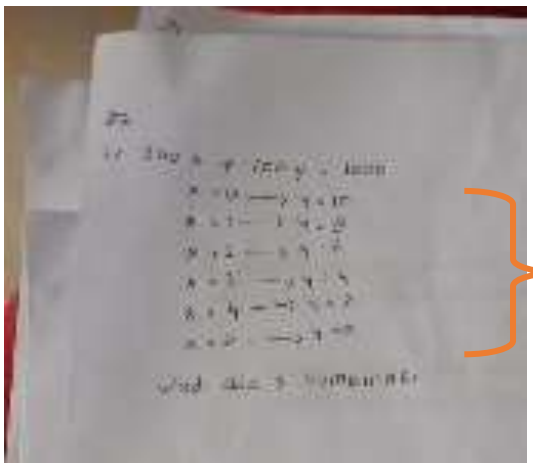
The type of research used was qualitative descriptive, to describe students' creative thinking skills reviewed from confidence. The sampling technique was chosen by the purposive sampling technique. The Purposive sampling technique is a sampling technique that considers certain criteria (Nashrullah et al., 2023). 3 respondents were taken to get an idea of creative thinking skills. The recruitment of respondents was based on the results of student confidence.

The instruments used for data collection consisted of confidence questionnaires, tests, and interview guidelines for creative thinking skills. The test and interview guidelines were developed based on the indicators of creative thinking ability by taking four indicators, namely fluency, flexibility, originality, and elaboration.

The data analysis technique based on the confidence questionnaire obtained was then analysed and categorised into three confidence categories, namely high, medium, and low. Each category was then taken by one respondent to get an overview of creative thinking skills based on the results of tests and interviews conducted. Data analysis techniques included data reduction, presenting data, and drawing a conclusion. The data reduction process was used to categorise and select respondents to be used to describe creative thinking skills based on the results of the student confidence category. The data presentation used images and was described qualitatively to make it easier to get an overview of the capabilities, while the conclusion was based on the results of the data presentation obtained.

RESULTS AND DISCUSSION

Categories of High-Confidence Students



Students meet the fluency indicator, which is the ability to generate many ideas or solutions in dealing with a problem. By writing down a combination of the given problems

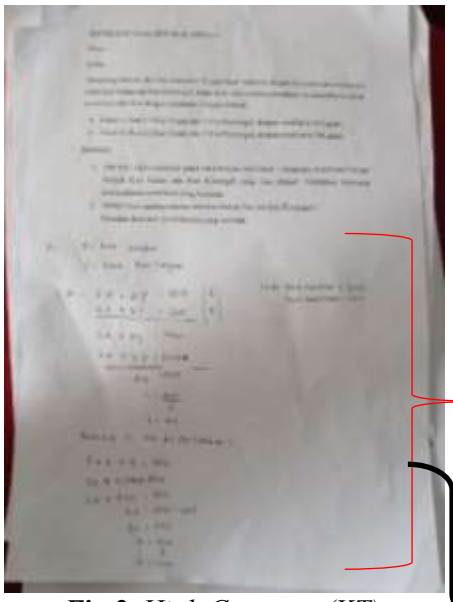
Fig 1. *High Category (KT)*

The results of the work from KT (Fig. 1) show that the respondents did not experience difficulties in solving problems. KT begins to solve the problem of point a by looking for several possible combinations according to the given problem by using the objective formula 200x + 100y = 1000 as a benchmark in finding possible combinations. The first method used by KT is to find the possibility that if x=0 then y=10, if x=1 then y=8, if x=2 then y=6, if x=3 then y=4, if x=4 then y=2 and if x=5 then y=0, so that there are 6 combinations based on the given problem.

The results of the work from KT (Fig. 2) show that the respondents did not experience difficulties in solving problems. KT begins to solve the problem of point a by looking for several possible combinations according to the given problem using the combined method, namely, using substitution elimination. The process of finding the answer begins with students eliminating x from two equations so that the value of y=100 is found. The next process is for students to substitute the value y=100 into equation 1 so that the value x=200 is obtained.

The results of the work from KT (Fig. 3) show that the respondents are smooth in the process of solving problems. KT starts by solving the problem of point a by creating separate tables for equation 1 and equation 2. In equation 1, students determine the value of y by first determining the value of x=0 substituted to equation 1, then the value of y=400 is obtained and the cut-off point of equation 1 (100,400) is obtained, and substitutes the value of x=200 so that y=100 is obtained so that the cut-off

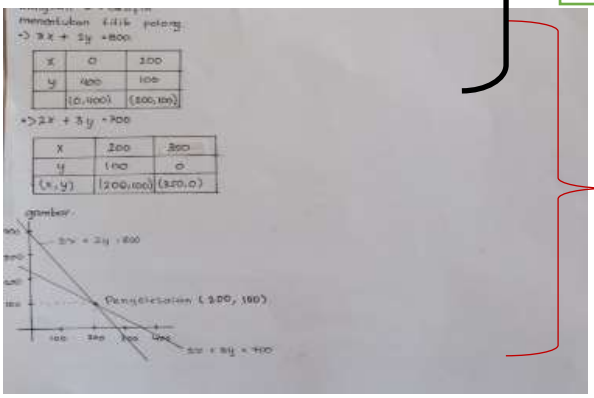
point 2 (200,100) is obtained. Then connect cutpoints 1 and 2 so that an equation line 1 is obtained. Equation 2, the student determines the point x=200 and substitutes it into equation 2 so that the value of y=100 is obtained and the cut-off point 1 (200,100) is obtained, then the substitution of the value of x=350 is obtained so that the value of y=0 is obtained and the cut-off point 2 (350.0) is produced. Then connect the cutoff points 1 and 2 in equation 2 so that the line of equation 2 is obtained and the cutpoint of the two lines is obtained at the point at point (200,100), which is the solution or solution of the problem.



way 1 = Substitution Elimination

Students meet the indicators of flexibility: The ability to come up with ideas or solutions that are diverse and different from usual, namely by using two solution methods, namely the substitution elimination method and the two-variable linear equation graph. to get the same answer

Fig 2. *High Category (KT)*



Method 2 = SPLDV Function Graph

Fig 3. *High Category (KT)*

Furthermore, in point b, KT solves the problem in two ways, namely the substitution elimination method and the two-variable linear equation system graph. The use of the substitution elimination method and the graph of the two-variable linear equation system produced the same answer. The first method used is the substitution elimination method by eliminating the variable x so that the value of y=100 is obtained and then substituted in equation 1 so that x = 200 is obtained, so that the weight of the nastar cake is 200 grams while the weight of the kastangel cake is 100 grams. The second way is to use a graphical picture of a two-variable linear equation system by determining the cutting point first to obtain the values of x and y until d obtains the settlement area of x = 200 and y = 100 so that the weight of the nastar cake is 200 grams while the weight of the castangel cake is 100 grams.

The ability to think creatively is interrelated with confidence in learning. Creative thinking skills are the result of the development of self-confidence (Yaniawati et al., 2020). Creative thinking skills will

increase in line with good confidence. This is in line with research conducted by Mualifah et al. (2020), which stated that creative thinking skills are in line with their confidence. Subjects in the high confidence category met the confidence indicators, namely fluency and flexibility. Based on the results of the study, students with high-level thinking skills met the fluency indicator, which is the ability to produce solutions in facing a problem by writing down a combination of given problems. Students meet the flexibility indicator, which is the ability to produce ideas or solutions that are diverse and different from usual, namely by using two solution methods, namely the elimination method of substitution and a graph of linear equations of two variables to get answers.

Category of Medium Confidence Students

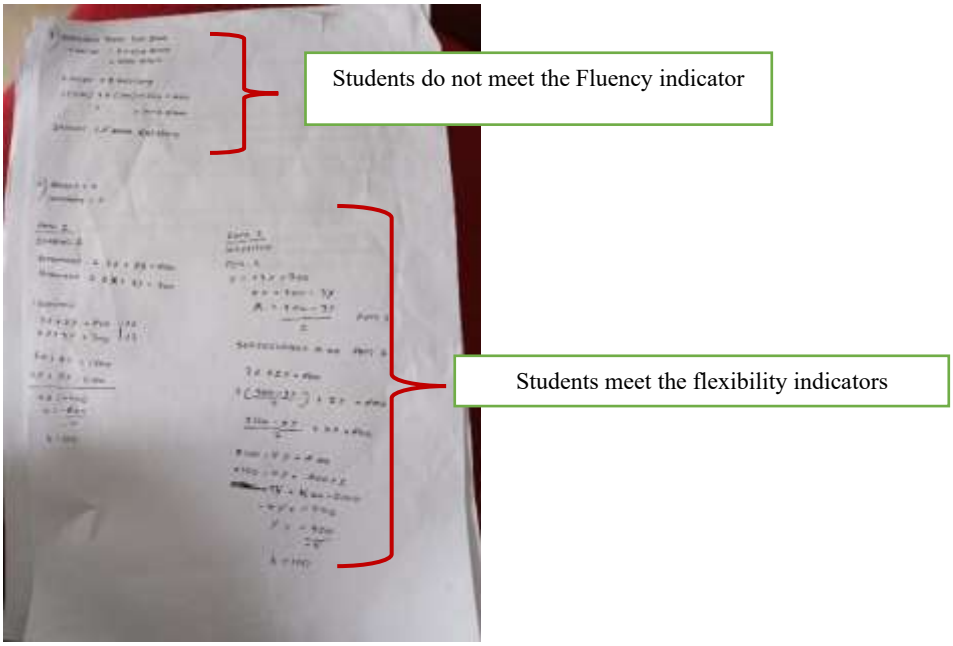


Fig 4. *Medium Category (KS)*

The results of the work from KS (Fig. 4), KS begins the settlement by writing a combination of 700 gram packages and obtaining 5 nastars = 5 x 200 = 1000 grams, while for 3 nastars and 4 castangels, they get 1000 grams, then one nastar + 8 castangels, but there is no conclusion from the steps of the settlement that have been done. Point b KS uses elimination and substitution methods. The first step is to eliminate the variable x from the two equations so that y=100 is obtained. Next, KS substitutes y = 100, equation 2, for equation 1 so that b = 100 is obtained. From the substitution elimination method used, a value of b=100 was obtained. Based on the steps taken by KS in solving the questions, KS meets the flexibility indicator, even though it is incomplete. The fluency indicator is also not well met.

For the subject of the medium confidence category, it is possible to answer questions in two methods, namely substitution and elimination, to get answers (fluency), solving problems from various points of view (flexibility) (Septian & Rahayu, 2021). In line with research by Indah Ratri Ratnasari et al. (2020), students with moderate confidence can achieve fluency and flexibility indicators. Meanwhile, other studies also show that students who have high confidence (KT) will have high creative thinking skills, students who have moderate confidence (KS) will have moderate creative thinking skills, as well as students who have low confidence will have low creative thinking skills (Eviliasani et al., 2018).

Category of Low Self-Confidence Students

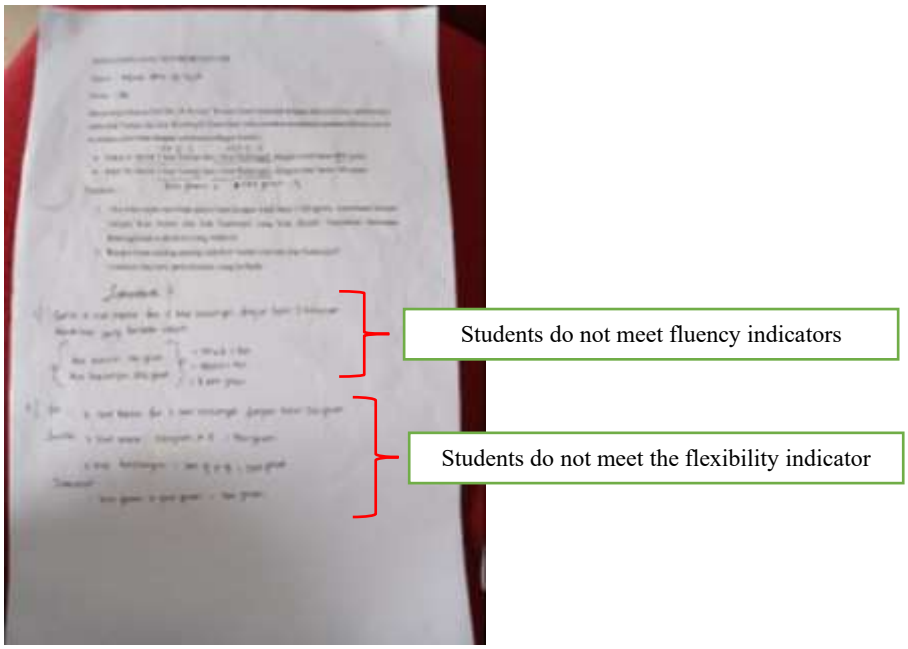


***Fig 5**. Low Category (KR)*

The results of the work from KR (Fig. 5), the results of the settlement carried out by KR showed that the respondent could not write down the information contained in the problem given. KR also did not take the steps to resolve it correctly, so there was no conclusion from the problem given. Based on the results of the interview, KR admitted that he did not understand what the question meant and was also unable to do the calculation correctly. KR also admitted that he had forgotten about the SPLDV material.

Based on the results of the study, KR did not meet the flexibility indicator because students still had difficulty interpreting the questions into pictures (Eviliasani et al., 2018). Based on the results of the study, subjects with low confidence were able to write two different answers (fluency), double-check the answers that had been written, and correct writing errors (elaboration). This condition is in line with research by Indah Ratri Ratnasari et al. (2020) that low confidence can affect the aspects of fluency and flexibility.

CONCLUSION

The results of the description of creative thinking skills reviewed from students' confidence showed: (1) students with high categories were able to find solutions correctly and could write down many ways to solve problems; (2) students in the medium confidence category could write down many ways to solve problems but could not find the right solution; (3) students with low confidence categories were not able to find the right solution and were not able to write down many ways to solve problems. The limitation in this study lay in the research subject. The research subjects used were grade VIII students of SMP N 1 Pekuncen. Further research may involve a larger number of subjects from different schools to obtain more representative and generalizable results.

REFERENCES

Amri, S. (2018). Pengaruh Kepercayaan Diri (Self Confidence) Berbasis Ekstrakurikuler Pramuka Terhadap Prestasi Belajar Matematika Siswa Sma Negeri 6 Kota Bengkulu. *Jurnal Pendidikan Matematika Raflesia*, *3*(2), 159.

Arini, W. (2017). Analisis Kemampuan Berpikir Kreatif pada Materi Cahaya Siswa Kelas Delapan

Smp Xaverius Kota Lubuklinggau. *Science and Physics Education Journal (SPEJ)*, *1*(1), 23–38. https://doi.org/10.31539/spej.v1i1.41

Dalilan, R., & Sofyan, D. (2022). Kemampuan Berpikir Kreatif Matematis Siswa SMP ditinjau dari Self Confidence. *Plusminus: Jurnal Pendidikan Matematika*, *2*(1), 141–150. https://doi.org/10.31980/plusminus.v2i1.1585

Eviliasani, K., Hendriana, H., & Senjayawati, E. (2018). Analisis Kemampuan Berfikir Kreatif Matematis Ditinjau Dari Pada Materi Bangun Datar Segi Empat. *Jurnal Pembelajaran Matematika Inovatif (JPMI)*, *1*(3), 333–346. https://doi.org/10.22460/jpmi.v1i3.333-346

Fardani, Z., Surya, E., & Mulyono. (2021). Pembelajaran Matematika Melalui Model Problem Based Learning. *Jurnal Pendidikan Matematika*, *14*(1), 39–51.

Febrianingsih, F. (2022). Kemampuan Berpikir Kreatif Siswa dalam Memecahkan Masalah Matematis. *Mosharafa: Jurnal Pendidikan Matematika*, *11*(1), 119–130.

Indah Ratri Ratnasari, D., Mariani, S., & Mulyono, M. (2020). Mathematics Creative Thinking Skills Reviewed from the Students' Self-Confidence by Implementing the Treffinger Learning Model Assisted by Geogebra. *Journal of Primary Education*, *9*(4), 377–386. https://journal.unnes.ac.id/sju/index.php/jpe

Kadir, I. A., Machmud, T., Usman, K., & Katili, N. (2022). Analisis Kemampuan Berpikir Kreatif Matematis Siswa Pada Materi Segitiga. *Jambura Journal of Mathematics Education*, *3*(2), 128–138. https://doi.org/10.34312/jmathedu.v3i2.16388

Masfufah, S. H., Winarsih, P., & Kadarisma, G. (2018). Hubungan Self Confidence Terhadap Kemampuan Berfikir Kreatif Matematis Siswa MTs. *JPMI (Jurnal Pembelajaran Matematika Inovatif)*, *1*(5), 895. https://doi.org/10.22460/jpmi.v1i5.p895-902

Mauludin, R., & Eko Subekti, F. (2023). Kemampuan Berpikir Kreatif Siswa Ditinjau Dari Disposisi Matematis. *Jurnal Lebesgue : Jurnal Ilmiah Pendidikan Matematika, Matematika Dan Statistika*, *4*(2), 1311–1319. https://doi.org/10.46306/lb.v4i2.270

Mualifah, M., Basuki, K. H., & Lestari, I. (2020). Pengaruh Berpikir Kreatif Dan Percaya Diri Terhadap Kemampuan Pemecahan Masalah Matematika. *JKPM (Jurnal Kajian Pendidikan Matematika)*, *5*(2), 213. https://doi.org/10.30998/jkpm.v5i2.5312

Nashrullah, M., Maharani, O., Rohman, A., Fahyuni, E. F., & Untari, R. S. (2023). *Metodologi Penelitian Pendidikan (Prosedur Penelitian, Subyek Penelitian, Dan Pengembangan Teknik Pengumpulan Data)*. Umsida Press, 1-64. https://doi.org/10.21070/2023/978-623-464-071-7

Ningsih, S. P., & Warmi, A. (2021). Analisis Kepercayaan Diri (Self-Confidence) Pada Pembelajaran Matematika Siswa SMP. *Maju*, *8*(2), 621–628.

Putri, P., Yusmin, E., & Astuti, D. (2021). Analisis Kemampuan Berpikir Kritis Pada Materi Persamaan Garis Lurus Dikaji Berdasarkan Habits of Mind. *Jurnal AlphaEuclidEdu*, *2*(1), 92. https://doi.org/10.26418/ja.v2i1.48016

Qomariyah, D. N., & Subekti, H. (2021). Pensa E-Jurnal : Pendidikan Sains Analisis Kemampuan Berpikir Kreatif: Studi Eksplorasi Siswa Di Smpn 62 Surabaya. *PENSA E-JURNAL: Pendidikan Sains*, *9*(2), 242–246.

Qudsiyah, K., Fitraini, D., Nurdin, E., & Irma, A. (2022). Analisis Kemampuan Berfikir Kreatif Matematis Berdasarkan Kepercayaan Diri Siswa Kelas VIII SMP Negeri 4 Tambang Pada Materi Sistem Persamaan Linier Dua Variabel (SPLDV). *In Tarbiyah Suska Conference Series*, *1*(1), 41–50.

Safitri, D., Studi, P., Matematika, P., Tidar, U., Magelang, K., & Tengah, J. (2021). Analisis Kemampuan Berpikir Kreatif Matematis Siswa dalam Menyelesaikan Soal pada Materi Pola Bilangan Kelas VIII Ditinjau dari Kepercayaan Diri. *MATH LOCUS: Jurnal Riset Dan Inovasi Pendidikan Matematika*, *2*(1), 23–33. https://doi.org/10.31002/mathlocus.v2i1.1513

Septian, A., & Rahayu, S. (2021). Peningkatan Kemampuan Pemecahan Masalah Matematis Siswa melalui Pendekatan Problem Posing dengan Edmodo. *Prisma*, *10*(2), 170. https://doi.org/10.35194/jp.v10i2.1813

Siregar, R. N., Mujib, A., Siregar, H., & Karnasih, I. (2020). Peningkatan Kemampuan Berpikir Kreatif Siswa Melalui Pendekatan Matematika Realistik. *Edumaspul: Jurnal Pendidikan*, *4*(1), 56–62. https://doi.org/10.33487/edumaspul.v4i1.338

Yaniawati, P., Kariadinata, R., Sari, N. M., Pramiarsih, E. E., & Mariani, M. (2020). Integration of e-

learning for mathematics on resource-based learning: Increasing mathematical creative thinking and self-confidence. *International Journal of Emerging Technologies in Learning*, *15*(6), 60–78. https://doi.org/10.3991/ijet.v15i06.11915.