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Analysis of Mathematical Creative Thinking Ability in Relation to Self Confidence

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ABSTRACT Mathematical creative thinking is an important higher-order thinking skill, yet students often remain limited in generating varied and original mathematical solutions. This study analyzed tenth-grade students' mathematical creative thinking ability in relation to self-confidence on the topic of quadratic functions. A qualitative phenomenological approach was employed with seven students from SMAN 13 Jakarta, selected purposively to represent high, moderate, and low self-confidence categories. Data were collected through a four-item non-routine written test, a 14-item self-confidence questionnaire, and semi-structured interviews. The data were analyzed through reduction, display, and conclusion drawing, with validity supported by technique and source triangulation. The findings showed that mathematical creative thinking profiles varied within every self-confidence category. S1 and S7 fulfilled the four indicators of fluency, flexibility, originality, and elaboration most consistently, whereas several students with high or moderate self-confidence remained limited in flexibility and originality. S7, despite having low self-confidence, demonstrated strong conceptual mastery, independent use of GeoGebra, and careful verification through multiple strategies. These findings indicate that self-confidence can support idea exploration but does not determine mathematical creative thinking ability linearly; conceptual mastery, persistence, and intrinsic motivation also play important roles.

Keywords: mathematical creative thinking, quadratic functions, self-confidence, phenomenology

INTRODUCTION

Mathematical creative thinking is an essential component of higher-order thinking in mathematics learning. It enables students to generate varied ideas and strategies rather than relying on a single problem-solving approach (Fadlilah and Siswono, 2022; Monisa and Fitriawan, 2023). Creative mathematical activity requires logical and rational reasoning while also encouraging students to view problems from different perspectives so that their solutions become more effective and innovative (Rozi and Afriansyah, 2022). This orientation is consistent with the Merdeka Curriculum,

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which emphasizes creativity as a foundation for responding to academic and real-life challenges (Kemendikbudristek, 2022).

Despite its importance, students' mathematical creative thinking remains relatively limited. Students with low mathematical ability may satisfy only the fluency indicator, and some may fail to demonstrate fluency, flexibility, or originality (Hanifah et al., 2024). Other findings indicate that students may perform adequately on routine fluency tasks while remaining weak in flexibility and originality because classroom tasks emphasize procedures and single answers (Sularni and Asmara, 2025). Mathematics instruction that focuses on procedures and one correct answer restricts opportunities to explore alternative ideas (Widiyanto and Yunianta, 2021). Consequently, students become accustomed to following teacher-demonstrated methods and experience difficulty when they encounter non-routine problems.

This pattern was also evident at SMAN 13 Jakarta. Preliminary observations in tenth-grade mathematics classes indicated that students tended to solve problems using only one method and experienced difficulty with non-routine quadratic-function problems. Initial interviews with the mathematics teacher further indicated that students generally lacked confidence when asked to present alternative solutions or explain their reasoning in front of the class. This condition suggests that the difficulties involve both cognitive and affective dimensions, particularly mathematical creative thinking and self-confidence.

Mathematical creative thinking in this study was examined through fluency, flexibility, originality, and elaboration, which were adapted from Torrance's framework (Torrance, 2018). Fluency refers to generating several relevant ideas, flexibility to using different strategies, originality to producing uncommon or independently developed ideas, and elaboration to explaining solution procedures systematically and in detail. Together, these indicators provide a comprehensive profile of students' creative mathematical activity (Putri and Awalludin, 2024; Triwibowo et al., 2017).

In addition to cognitive competence, affective factors may shape how students approach mathematical problems. Self-confidence refers to an individual's belief in their ability to act, make decisions, and accept responsibility without excessive anxiety (Fardani et al., 2021). Students with high self-confidence tend to be more willing to express opinions, attempt different problem-solving strategies, and defend the ideas generated during mathematical problem solving (Handayani et al., 2022). Conversely, low self-confidence may create fear of making mistakes and reluctance to propose alternative solutions, preventing creative mathematical potential from developing optimally (Khoirunnisa and Malasari, 2021; Oktafia and Sari, 2024). Previous studies generally indicate that students with higher self-confidence tend to demonstrate stronger mathematical creative thinking. This tendency suggests that self-confidence

is not merely a background characteristic but an affective factor that shapes how students respond to and explore mathematical problems.

Previous studies on mathematical creative thinking and self-confidence have predominantly used quantitative correlational or experimental designs (Dalilan and Sofyan, 2022; Winarsih et al., 2018). Although such designs identify general tendencies, they provide limited insight into how individual students experience uncertainty, select strategies, and explain their thinking. Moreover, few studies have described creative-thinking profiles by indicator at each level of self-confidence. Research focusing on quadratic functions at the senior-high-school level is also limited, even though the topic requires complex graphical, algebraic, and contextual reasoning. To date, qualitative phenomenological evidence concerning how students at different self-confidence levels experience and express mathematical creative thinking on quadratic functions remains scarce. Therefore, this study aimed to analyze and describe the profiles of fluency, flexibility, originality, and elaboration among tenth-grade students with high, moderate, and low self-confidence through a qualitative phenomenological approach.

RESEARCH METHODS

This study employed a qualitative phenomenological approach to explore students' subjective experiences when expressing mathematical creative thinking and to understand how self-confidence influenced the ways in which they interpreted and responded to mathematical problems. The study was conducted during the odd semester of the 2025/2026 academic year at SMAN 13 Jakarta. Seven tenth-grade students were selected through purposive sampling to represent high self-confidence (S1, S2, and S3), moderate self-confidence (S4, S5, and S6), and low self-confidence (S7). This categorization was consistent with comparable qualitative mathematics-education research (Khoirunnisa and Malasari, 2021). The researcher served as the primary instrument by conducting interviews, observing written responses, and interpreting the collected data.

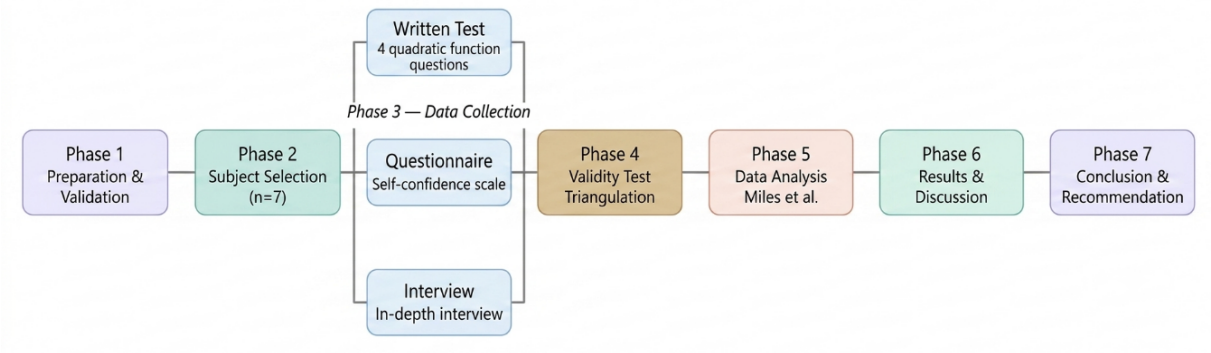


Figure 1. Research procedure flowchart

Data were collected using three instruments. First, a written test consisted of four non-routine quadratic-function problems adapted from Febryana et al. (2024). Each problem represented one indicator of mathematical creative thinking: fluency, flexibility, originality, or elaboration. Second, a self-confidence questionnaire adapted from Pohan (2023) contained 14 items rated on a five-point Likert scale. The scores were classified using the ideal mean and ideal standard deviation (Isyana et al., 2024). Third, semi-structured interviews explored the reasoning underlying students' written answers. The instruments were reviewed by a university lecturer and a mathematics teacher before implementation, consistent with the need for valid creative-thinking assessment instruments (Tumangger et al., 2025).

Table 1. Self-confidence categories

Score Interval	Category
$X \geq 51.33$	High
$32.67 \leq X < 51.33$	Moderate
$X < 32.67$	Low

Note: $51.33 = M_i + SD_i$ and $32.67 = M_i - SD_i$.

The self-confidence categorization in Table 1 was used to assign students to the high, moderate, and low groups. Data analysis followed three interactive stages: data reduction, data display, and conclusion drawing and verification. Technique triangulation cross-checked evidence from the written test, questionnaire, and interviews, while source triangulation compared subjects within the same self-confidence category. Interpretations were based on recurring patterns across these sources rather than on questionnaire scores alone.

RESULTS AND DISCUSSION

The seven subjects displayed different combinations of self-confidence and mathematical creative thinking. The results in Table 2 show that high self-confidence did not consistently correspond to high creative-thinking scores. S3, for example, was classified as highly self-confident but obtained a low creative-thinking score, whereas S7 obtained a high creative-thinking score despite low self-confidence.

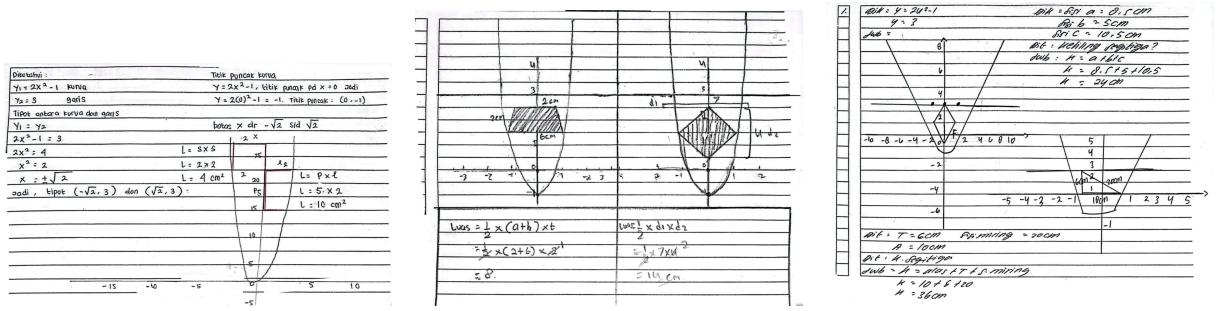
Table 2. Creative-thinking and self-confidence profiles

Subject	Creative Thinking Score	Creative Thinking Category	Self-Confidence Score	Self-Confidence Category
S1	15	High	54	High
S2	12	Moderate	52	High
S3	6	Low	53	High
S4	13	Moderate	47	Moderate
S5	9	Low	46	Moderate
S6	14	High	44	Moderate
S7	14	High	30	Low

High Self-Confidence Subjects (S1, S2, and S3)

Although S1, S2, and S3 were categorized as highly self-confident, their mathematical creative thinking scores varied substantially. This variation indicates that self-confidence can support engagement but does not automatically produce strong performance on every creative-thinking indicator.

Fluency. S1 demonstrated the strongest fluency by systematically identifying the intercepts and vertex of the parabola and then visualizing the curve to generate more than one quadrilateral. S1 explained, "I looked for the vertex of the curve with the aim of finding the intersection points and the vertex so that I could visualize the curve that would be formed." S2 also demonstrated adequate fluency by plotting coordinate points and forming a quadrilateral within the curve, although the process required more time. S2 noted, "It was not immediate, but I quickly obtained an idea of where to start." In contrast, S3 made a conceptual error by drawing a triangle rather than a quadrilateral. Although S3 claimed to know where to begin, the response indicated that fluency had not yet developed fully.



(a) S1 (b) S2 (c) S3

Figure 2. High self-confidence subjects' responses to the fluency item

Flexibility. S1 was the only subject in the high self-confidence category who demonstrated flexibility by applying two different strategies, algebraic manipulation and substitution, both of which produced the same result. S1 explained, "I initially used the

algebraic method, but when I tried substitution, it also worked, so I included both." S2 acknowledged having considered another method but decided not to present it, stating, "I did consider another method, but I did not think it was necessary because this procedure was already correct." S3 did not demonstrate flexibility because the written response was developed almost entirely from a classmate's guidance rather than through independent reasoning.

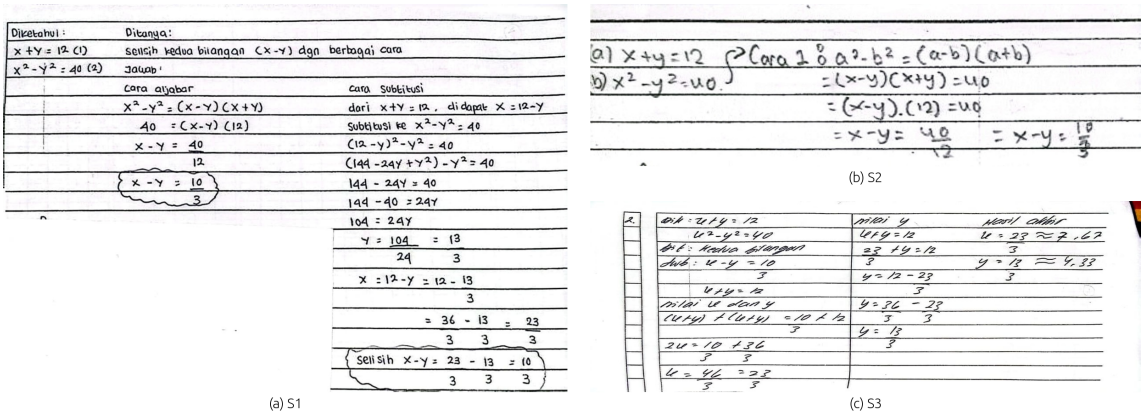


Figure 3. High self-confidence subjects' responses to the flexibility item

Originality. S1 demonstrated originality by independently developing a strategy for determining the sides of a trapezoid and calculating its perimeter without relying on the procedure taught by the teacher. S1 stated, "I selected the method that I considered most appropriate for answering the question." In contrast, S2's approach was influenced by guidance from a friend. S2 explained, "I discussed it with my friend first because I was confused at the beginning." S3 attempted to develop an idea independently, but the strategy remained simple and was still strongly guided by classmates. Thus, S1 displayed the clearest originality in this category.

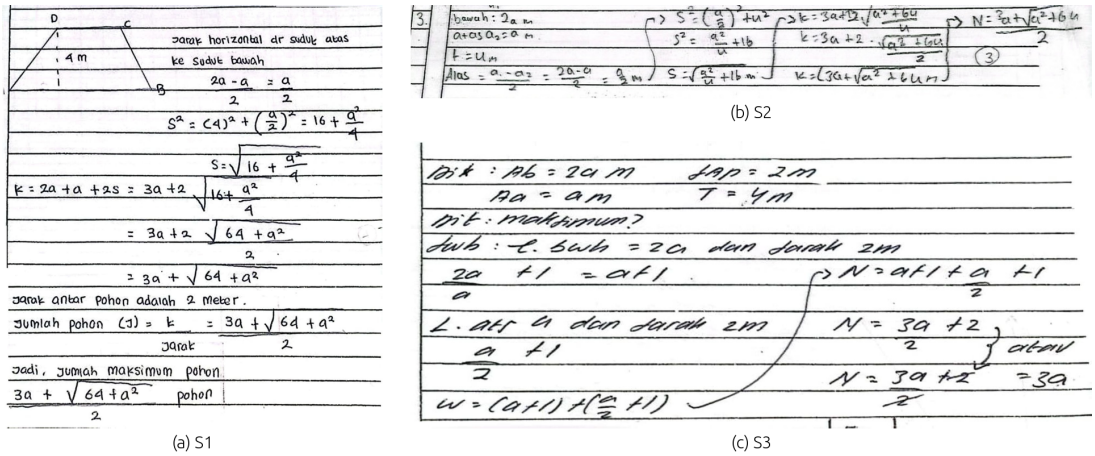
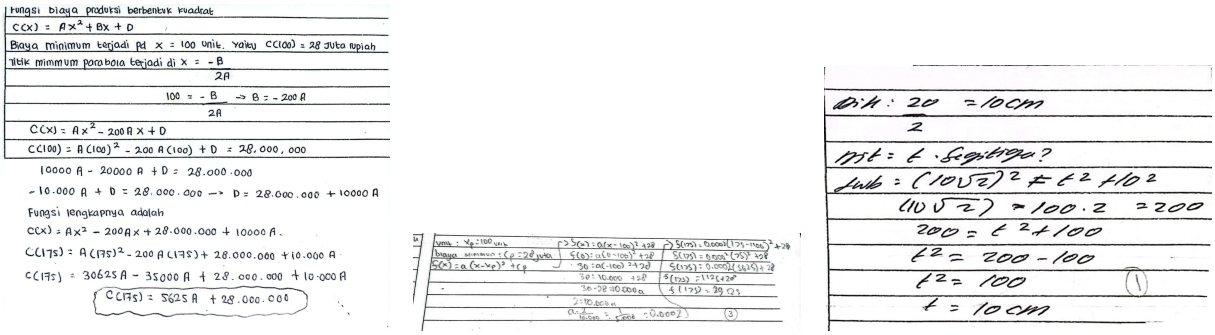


Figure 4. High self-confidence subjects' responses to the originality item

Elaboration. S1 provided a detailed and logical explanation of the solution, beginning with determining the minimum point of the parabola, continuing with value substitution into the function, and identifying the most important stages. S2 also explained the procedure logically, but the explanation remained general and lacked the detail provided by S1. S3 attempted to present the steps sequentially, but the procedure did not correspond to the problem context because the subject used the height of a triangle rather than the appropriate method. Consequently, the final answer was incorrect.



(a) S1 (b) S2 (c) S3

Figure 5. High self-confidence subjects' responses to the elaboration item

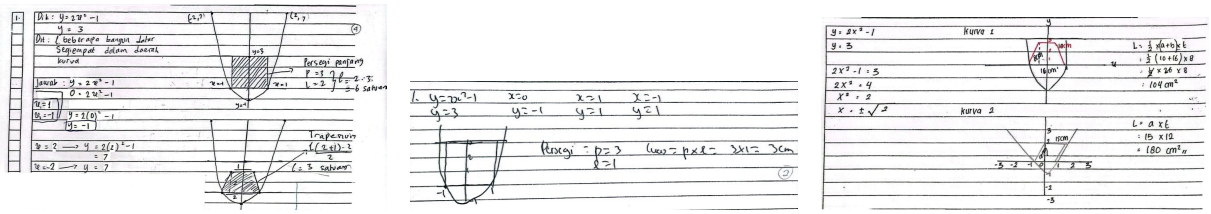
Overall, among the three subjects with high self-confidence, only S1 fulfilled all four indicators optimally. S2 demonstrated fluency and elaboration but remained limited in flexibility and originality, whereas S3 did not meet any indicator optimally despite having high self-confidence. These findings support the view that self-confidence acts as a supporting factor but is not the sole determinant of mathematical creative thinking (Khoirunnisa and Malasari, 2021). Adequate conceptual mastery is equally important for students' creative potential to develop fully (Widiyanto and Yunianta, 2021).

Moderate Self-Confidence Subjects (S4, S5, and S6)

S4, S5, and S6 had moderate self-confidence but displayed different creative-thinking profiles. Their variation suggests that conceptual understanding, persistence, and independence in problem solving may be as influential as confidence level.

Fluency. S4 demonstrated the strongest fluency by immediately identifying the initial step: drawing a curve from the calculated points, constructing two quadrilaterals within it, and calculating their respective areas. S4 stated, "I immediately knew where to begin: I drew the curve using the points that I had found, drew two quadrilaterals inside the curve, and then calculated the area of each." S6 also demonstrated good fluency. Although initially confused, S6 gradually developed an understanding by rereading the problem and recalling relevant plane-figure concepts. S6 explained, "At first, I was confused about what the problem meant. I need to understand the problem and reread it before I can identify the concept and find an answer." In contrast, S5 identified only

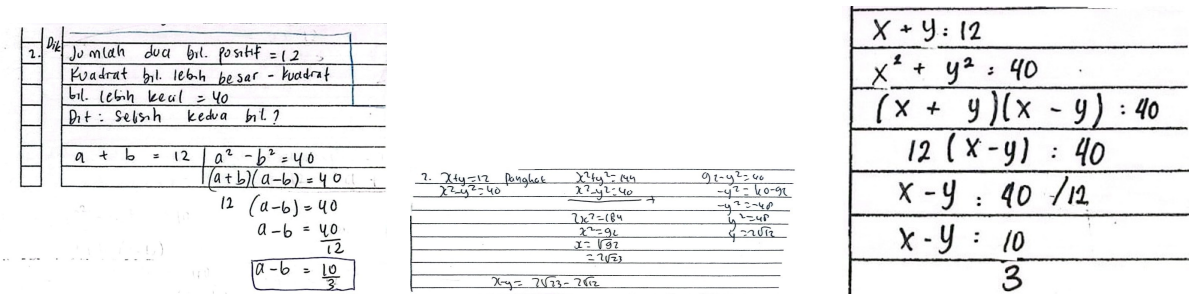
one plane figure and made a conceptual error when writing the area formula, indicating that fluency had not yet developed optimally.



(a) S4 (b) S5 (c) S6

Figure 6. Moderate self-confidence subjects' responses to the fluency item

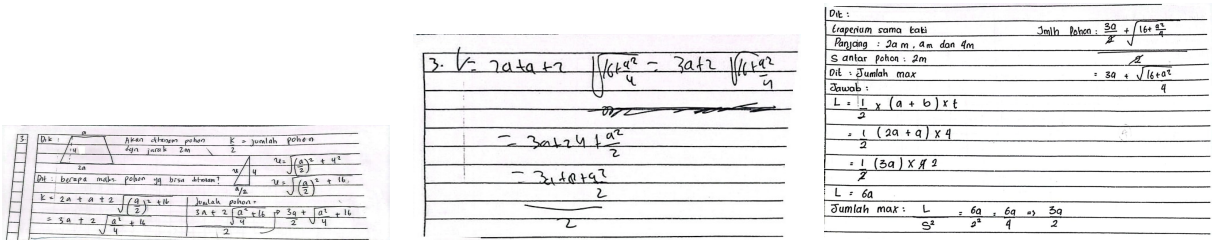
Flexibility. None of the three subjects with moderate self-confidence fully satisfied the flexibility indicator. S4 used only the difference-of-squares method and did not consider another strategy, stating, "I only used the method that I remembered because I did not think of another approach." S5 similarly applied only elimination and substitution and explicitly stated that no other method came to mind. S6 reported having attempted to write down alternative methods but ultimately did not include them in the final answer. S6 noted, "I usually try to write down several possibilities first, and I present the answer that I understand and consider reasonable." This pattern suggests that moderate self-confidence was not sufficient to encourage the presentation of diverse problem-solving strategies.



(a) S4 (b) S5 (c) S6

Figure 7. Moderate self-confidence subjects' responses to the flexibility item

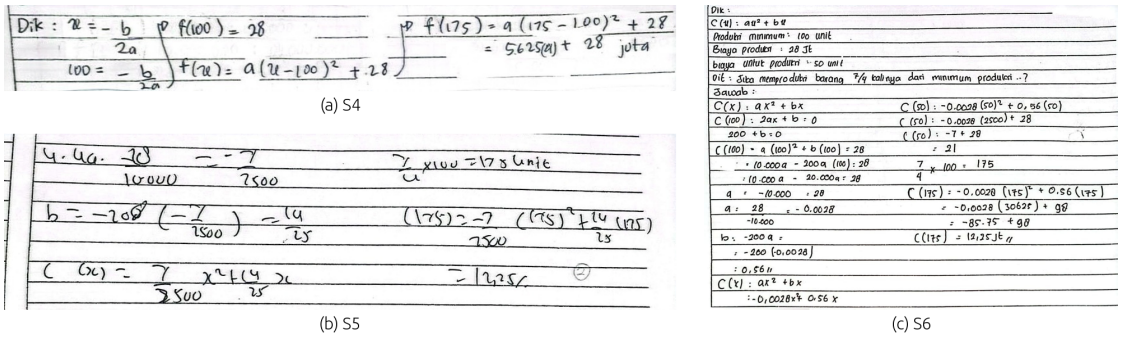
Originality. S4 demonstrated the strongest originality by visualizing the positions of the trees and independently applying a trapezoid-perimeter approach. S4 explained, "First, I visualized the distances between the trees. I then calculated the perimeter because the shape resembled a trapezoid, and I believed that the method was reasonable." S6 attempted to develop an independent approach but remained uncertain about its correctness and was influenced by confusion shared with a classmate. In contrast, S5's solution did not originate from independent reasoning. The subject acknowledged receiving assistance from a peer and could not explain why a square-root form was used.



(a) S4 (b) S5 (c) S6

Figure 8. Moderate self-confidence subjects' responses to the originality item

Elaboration. S6 demonstrated the strongest elaboration by explaining the problem-solving process systematically: understanding the problem, identifying the appropriate formula, performing substitution, and determining the most important part of the solution. S6 stated, "The important aspect is understanding what is known and what is being asked. In my opinion, the crucial part is finding the value of a so that the next step can be completed." S4 also presented a systematic solution using substitution, although some uncertainty remained regarding the result. S5 provided only a general explanation without describing each step in detail and expressed uncertainty throughout the process.



(a) S4

(b) S5 (c) S6

Figure 9. Moderate self-confidence subjects' responses to the elaboration item

In general, the three subjects with moderate self-confidence displayed varied profiles. S4 performed well in fluency, originality, and elaboration but remained limited in flexibility. S6 demonstrated strong fluency and elaboration and obtained a high overall creative-thinking score, indicating that persistence and deep problem comprehension can compensate for limitations in self-confidence (Anggraeni et al., 2023). S5 only partially demonstrated fluency and elaboration, while flexibility and originality remained underdeveloped because of strong dependence on peer assistance. Within the moderate self-confidence category, independent problem comprehension and persistence therefore appeared more decisive than confidence level alone.

Low Self-Confidence Subject (S7)

S7 provided the most distinctive finding in this study. Despite having the lowest self-confidence score, S7 fulfilled all four indicators of mathematical creative thinking optimally. Throughout the problem-solving process, S7 consistently acknowledged substantial doubt and fear of making mistakes. However, these feelings encouraged greater precision and the use of several verification strategies rather than preventing creative thinking.

Fluency. S7 initially experienced confusion but independently used GeoGebra to visualize the curve. After reviewing the relevant concepts, S7 drew a quadrilateral within the curve and calculated its area. S7 stated, "I was confused at first, but then I remembered that I could use GeoGebra. After viewing the curve in GeoGebra, I recalled its shape, observed its boundaries, and estimated that I could construct a quadrilateral, specifically a square." The independent use of a learning tool to overcome confusion demonstrated strong cognitive fluency despite low self-confidence.

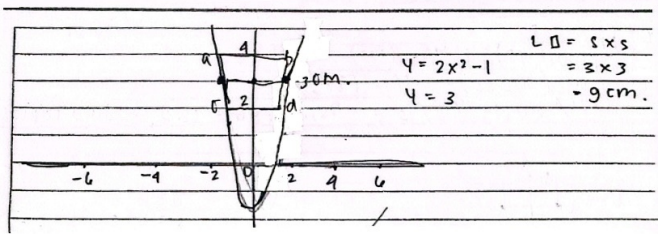


Figure 10. Subject S7's response to the fluency item

Flexibility. S7 was the only subject besides S1 who used more than one strategy for the second problem. S7 first used substitution and then verified the answer algebraically. The subject explained, "I initially used substitution, and then I tried algebra as a backup in case I remained uncertain." In this case, self-doubt motivated the use of multiple strategies and transformed a perceived weakness into a strength that deepened the problem-solving process.

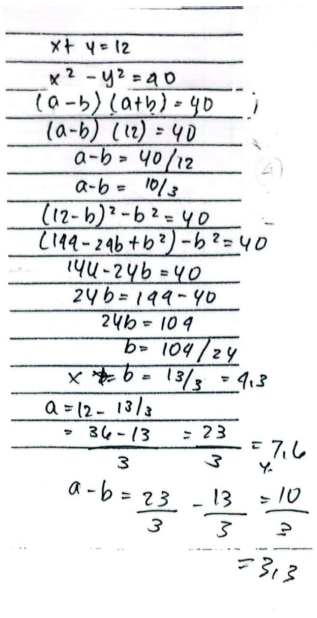


Figure 11. Subject S7's response to the flexibility item

Originality. S7 independently applied the Pythagorean theorem, a strategy that was not used by the other subjects for the same problem. Although S7 briefly considered another method, the Pythagorean theorem was selected because the subject felt more certain about the reasoning. S7 stated, "I tried using the Pythagorean theorem. Initially, I wanted to find the distance between the trees, but I was not confident in that result, so I used the Pythagorean method." This response demonstrates that students with low self-confidence can generate original and independent mathematical ideas when they possess strong conceptual mastery.

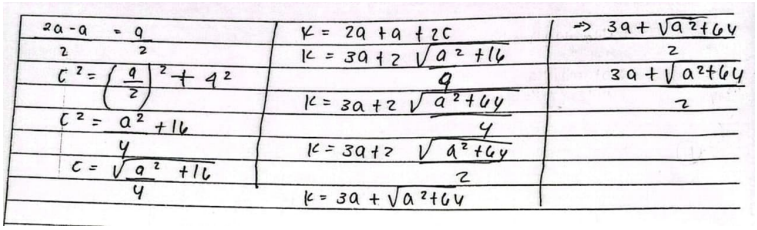


Figure 12. Subject S7's response to the originality item

Elaboration. S7 provided the most detailed and systematic explanation among the seven subjects for the fourth problem. The response began by determining b through the maximum-point formula, finding a through substitution at $x = 100$, and then evaluating the function at $x = 175$. S7 explained, "First, I found the value of b using the maximum-point formula. I then determined a by substituting $x = 100$. After obtaining

a, I substituted it into the function and calculated the function value at $x = 175$ to obtain the final result." The subject also identified the most important stages of the entire solution process.

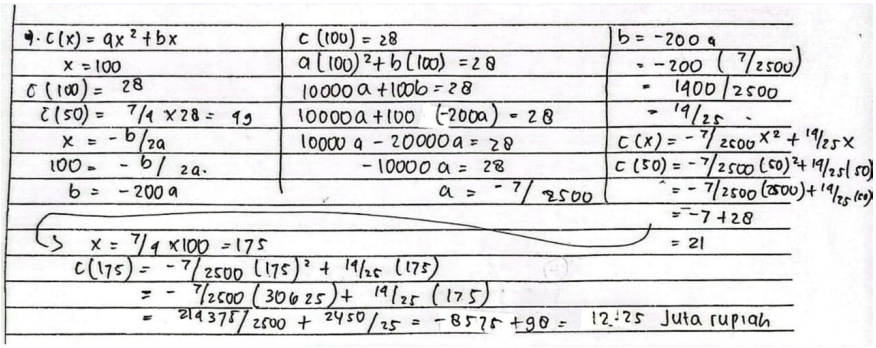


Figure 13. Subject S7's response to the elaboration item

S7's profile was the most significant finding of this study and demonstrated that the relationship between self-confidence and mathematical creative thinking is not always linear. Despite having the lowest self-confidence score, S7 fulfilled all four indicators optimally through strong conceptual mastery, independent use of GeoGebra, and intrinsic motivation to verify answers carefully. Paradoxically, self-doubt functioned as a stimulus for comprehensive and multi-strategy reasoning rather than solely as an obstacle. This interpretation extends findings that self-confidence supports creative thinking but does not independently determine it (Dalilan and Sofyan, 2022).

The analysis of all seven subjects showed that mathematical creative thinking varied substantially within every self-confidence category. In the high self-confidence category, only S1 fulfilled all four indicators optimally, while S2 and S3 remained limited, particularly in flexibility and originality. A similar pattern appeared in the moderate category: S4 and S6 met several indicators, whereas S5 remained substantially limited. These findings reinforce the view that self-confidence supports mathematical creative thinking but is not its sole determinant (Khoirunnisa and Malasari, 2021). Mathematical conceptual mastery and individual learning experiences also influence the extent to which creative potential can develop (Widiyanto and Yunianta, 2021).

Comparisons across categories revealed additional patterns. S1, who had high self-confidence, and S6, who had moderate self-confidence, both obtained strong creative-thinking results through different pathways. S1's performance was supported by confidence in independently exploring several strategies, whereas S6 relied on cognitive persistence by rereading the problems and recalling relevant concepts after experiencing initial confusion. High self-confidence was therefore not the only pathway to strong creative performance. Similarly, S2 and S4 showed comparable profiles: both performed well in fluency and elaboration but remained limited in flexibility, even though they

belonged to different self-confidence categories. These comparisons further demonstrate that self-confidence levels are not directly proportional to mathematical creative thinking ability.

Across all subjects, flexibility and originality were the least frequently demonstrated indicators; only S1 and S7 clearly fulfilled both. Many subjects remained attached to teacher-taught procedures and avoided the perceived risk of trying unfamiliar strategies, a pattern also reported in open-ended creative-thinking research (Amanah and Inganah, 2025; Triwibowo et al., 2017). Individual perseverance, conceptual understanding, and the ability to use learning resources therefore appear to influence creative performance alongside affective characteristics (Yuliati et al., 2025).

These findings imply that mathematics instruction should integrate cognitive and affective support. Open-ended problems provide opportunities to explore several legitimate strategies and can strengthen flexibility and originality (Arifianti and Baidawi, 2024). Constructive feedback and a classroom climate in which errors are treated as part of learning may help students, particularly those with low self-confidence, become more willing to communicate their mathematical ideas (Winarni et al., 2025; Winarsih et al., 2018). More broadly, integrated instructional approaches can support the development of complex mathematical thinking (Rahmawati and Juandi, 2022).

CONCLUSION AND RECOMMENDATIONS

Students' mathematical creative thinking profiles varied within each self-confidence category. S1 and S7 fulfilled fluency, flexibility, originality, and elaboration most consistently. S6 obtained a high overall creative-thinking score and demonstrated particular strength in fluency and elaboration, whereas S2, S3, S4, and S5 displayed different limitations, especially in flexibility and originality. Self-confidence supported students' willingness to explore and communicate ideas, but the profiles did not show a linear correspondence between self-confidence and mathematical creative thinking. The case of S7 demonstrated that strong conceptual mastery, persistence, independent use of learning resources, and intrinsic motivation can compensate for low self-confidence.

Teachers should design learning activities that develop cognitive and affective dimensions simultaneously. Open-ended quadratic-function tasks, opportunities to compare multiple strategies, constructive feedback, and a safe environment for testing ideas may strengthen flexibility, originality, and confidence. Because this qualitative study involved only seven students from one school, its findings are contextual rather than statistically generalizable. Future research should involve broader settings, examine changes over time, and investigate how conceptual mastery and self-confidence interact during creative mathematical problem solving.

Artificial Intelligence Statement: The authors declare that no generative artificial intelligence or AI-assisted technologies were used in conducting the research or preparing the submitted manuscript.

Author Contribution Statement: ASR: Conceptualization, Methodology, Software, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization, Project administration. BH: Methodology, Validation, Resources, Data curation, Writing – original draft, Writing – review & editing, Supervision, Project administration.

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REFERENCES

Amanah, N. N., & Inganah, S. (2025). Analysis of student's mathematical creative thinking ability in solving open-ended problems in terms of cognitive style. *MATHEMA: Jurnal Pendidikan Matematika, 7*(1), 1--18. https://doi.org/10.33365/jm.v7i1.6375

Anggraeni, Y. R., Haji, S., & Zamzaili. (2023). Pengaruh kepercayaan diri dan gaya belajar terhadap kemampuan pemecahan masalah matematika siswa SMA. *Jurnal MATHUMB.EDU, 11*(1). https://doi.org/10.36085/mathumbedu.v11i1.5229

Arifianti, D., & Baidawi, M. (2024). Improving students' creative thinking skills in mathematics through solving open-ended problems. *Jurnal Multidisiplin Ibrahimy, 2*(1), 113--120. https://doi.org/10.35316/jummy.v2i1.5551

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

Fadlilah, C., & Siswono, T. Y. E. (2022). Kemampuan berpikir kreatif siswa asimilasi dan konvergen dalam memecahkan masalah numerasi. *MATHEdunesa, 11*(2), 548--561. https://doi.org/10.26740/mathedunesa.v11n2.p548-561

Fardani, Z., Surya, E., & Mulyono, M. (2021). Analisis kepercayaan diri (self-confidence) siswa dalam pembelajaran matematika melalui model problem-based learning. *Paradikma: Jurnal Pendidikan Matematika, 14*(1), 39--51. https://doi.org/10.24114/paradikma.v14i1.24809

Febryana, U. I., Rahmania, F., Faradillah, A., & Jusra, H. (2024). Evaluation of validity and reliability using Rasch model and SPSS on students' mathematical creative thinking ability. *Pattimura Proceeding: Conference of Science and Technology, 5*(1), 1--10. https://doi.org/10.30598/ppcst.knmxxiiv5i1p1-10

Tumangger, M. H., Cahyaningrum, R., Maghfiroh, A., & Sahrul. (2025). Validity and reliability of creative thinking skills assessment instruments in mathematics subjects for elementary school. *Jurnal Absis: Jurnal Pendidikan Matematika dan Matematika, 8*(2), 448--460. https://doi.org/10.30606/absis.v8i2.3316

Handayani, S., Marwan, & Ansari, B. I. (2022). Kemampuan berpikir kreatif matematis dan self-confidence siswa dengan pendekatan open-ended. *SUKMA: Jurnal Pendidikan, 6*(2), 209--225. https://www.jurnalsukma.org/index.php/sukma/article/view/06205.2022

Hanifah, N. N., Sari, C. K., Kholid, M. N., & Faiziyah, N. (2024). Kemampuan berpikir kreatif matematis siswa dalam memecahkan masalah segitiga dan segiempat. *Jurnal Cendekia: Jurnal Pendidikan Matematika, 8*(1), 827--840. https://doi.org/10.31004/cendekia.v8i1.2532

Isyana, B. V., Baidowi, Novitasari, D., & Sridana, N. (2024). Pengaruh self-confidence terhadap hasil belajar matematika siswa kelas VIII SMP. *Mandalika Mathematics and Educations Journal, 6*(1), 370--383. https://doi.org/10.29303/jm.v6i1.7125

Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi. (2022). *Tahapan implementasi Kurikulum Merdeka di satuan pendidikan*. https://kurikulum.kemdikbud.go.id/wp-content/uploads/2022/07/Tahapan-Implementasi-Kurikulum-Merdeka.pdf

Khoirunnisa, P. H., & Malasari, P. N. (2021). Analisis kemampuan berpikir kritis matematis siswa ditinjau dari self-confidence. *JP3M (Jurnal Penelitian Pendidikan dan Pengajaran Matematika), 7*(1), 49--56. https://doi.org/10.37058/jp3m.v7i1.2804

Monisa, S., & Fitriawan, D. (2023). Kemampuan berpikir kreatif terhadap pemecahan masalah. *JPMI (Jurnal Pembelajaran Matematika Inovatif), 6*(1), 169--178. https://doi.org/10.22460/jpmi.v6i1.14565

Oktafia, M., & Sari, M. (2024). Students' self-confidence in Knisley mathematics learning with a constructivist approach. *Jurnal Absis: Jurnal Pendidikan Matematika dan Matematika, 7*(1), 25--34. https://doi.org/10.30606/absis.v7i1.2382

Pohan, R. A. (2023). Pengembangan dan validasi instrumen kepercayaan diri siswa dalam merespon. *JUANG: Jurnal Wahana Konseling, 6*(1), 47--54. https://doi.org/10.31851/juang.v6i1.11494

Putri, R. A., & Awalludin, S. A. (2024). Analisis kemampuan berpikir kreatif matematis ditinjau dari self-efficacy dalam menyelesaikan soal berbasis literasi dan numerasi. *FIBONACCI: Jurnal Pendidikan Matematika dan Matematika, 10*(1), 51--64. https://doi.org/10.24853/fbc.10.1.51-64

Rahmawati, L., & Juandi, D. (2022). Pembelajaran matematika dengan pendekatan STEM: Systematic literature review. *Teorema: Teori dan Riset Matematika, 7*(1), 149--165. https://doi.org/10.25157/teorema.v7i1.6914

Rozi, F. A., & Afriansyah, E. A. (2022). Analisis kemampuan berpikir kreatif matematis berdasarkan disposisi matematis siswa. *Journal of Authentic Research on Mathematics Education, 4*(2), 172--185. https://doi.org/10.37058/jarme.v4i2.4880

Sularni, S., & Asmara, A. (2025). Analisis kemampuan berpikir kreatif matematis siswa SMP pada materi persamaan dan pertidaksamaan linear satu variabel. *RIGGS: Journal of Artificial Intelligence and Digital Business, 4*(4), 5915--5923. https://doi.org/10.31004/riggs.v4i4.4481

Torrance, E. P. (2018). *Torrance tests of creative thinking: Interpretive manual*. Scholastic Testing Service. https://www.ststesting.com/gift/TTCT_InterpMOD.2018.pdf

Triwibowo, Z., Dwidayati, N. K., & Sugiman, S. (2017). Analysis of mathematical creative thinking ability viewed from students' learning styles in seventh grader through Treffinger learning model with open-ended approach. *Unnes Journal of Mathematics Education, 6*(3), 391--399. https://doi.org/10.15294/ujme.v6i3.17987

Widiyanto, J., & Yunianta, T. N. H. (2021). Pengembangan board game TITUNGAN untuk melatih kemampuan berpikir kreatif matematis siswa. *Mosharafa: Jurnal Pendidikan Matematika, 10*(3), 425--436. https://doi.org/10.31980/mosharafa.v10i3.997

Winarni, S., Fidyani, O., & Kumalasari, A. (2025). Creative performance self-efficacy and mathematical problem-solving: Analyzing students' strategies in number patterns. *Jurnal Pendidikan MIPA, 26*(1), 429--456. https://doi.org/10.23960/jpmipa/v26i1.pp429-456

Winarsih, P., Masfufah, S. H., & Kadarisma, G. (2018). Hubungan self-confidence terhadap kemampuan berpikir kreatif matematis siswa MTs. *JPMI (Jurnal Pembelajaran Matematika Inovatif), 1*(5), 895--902. https://doi.org/10.22460/jpmi.v1i5.p895-902

Yuliati, I., Juniati, D., & Khabibah, S. (2025). Creative thinking ability of mathematics students in solving geometry problems viewed from adversity quotient. *MATHEMA: Jurnal Pendidikan Matematika, 7*(1), 309--323. https://doi.org/10.33365/jm.v7i1.5056