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Dynamics of Cognitive Fixation and Creative Self-Efficacy and Its Relatedness to Creative Thinking Skills

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A B S T R A C T

This study investigates the relationship among cognitive fixation, creative self-efficacy, and the creative thinking skills of 120 Grade 10 students at San Pedro Relocation Center National High School in San Pedro City, Laguna, aged 15 to 18. The study employed a correlational design. Data were gathered using validated instruments, including a creative self-efficacy questionnaire, a cognitive fixation assessment and task, and a creative thinking skills test based on indicators of fluency, flexibility, originality, and elaboration. Findings reveal that students display both restrictive and expansive fixation, but educators seldom recognize these patterns. Students assessed themselves as self-assured in their creative skills, yet their actual creative thinking abilities were lacking, especially in flexibility, originality, and elaboration. Statistical analysis showed no significant correlation between cognitive fixation and creative thinking abilities, except for fluency and elaboration, which were positively associated with restrictive fixation. Furthermore, no notable correlation was found between creative self-efficacy and performance in creative thinking. These results suggest that certain cognitive constraints, such as restricted fixation, may enhance aspects of creativity like idea fluency and elaboration. However, a robust belief in one's creative abilities does not automatically lead to the generation of advanced creativity. The study recommends that educators adopt a balanced approach, blending both organized and free-form activities to enhance various forms of creativity. It further suggests that upcoming studies should utilize objective techniques and classroom observation to explore the relationship among teaching methods, self-efficacy, and genuine creative output.

Keywords: creative self-efficacy, cognitive fixation, creative thinking skills

Introduction

The students must acquire information and skills to compete successfully in a global competition as part of their education in the 21st century. The industrialization and global period, which led people to believe that developing competent talents or skills must accompany the advancement of science and technology, are examples of science's extremely quick development. Higher-order thinking skills (HOTS) should be developed by learners regardless of their educational levels as one of many talents to survive throughout global competitiveness. The term "HOTS" refers to the capacity to modify previously acquired knowledge or information to digest it and seek any potential answers to present issues. HOTS may be further broken down into the following sub-skills: metacognition, critical thinking, and creative thinking. These essential abilities of thinking center on how students' behavior and learning processes interact. Creative thinking may be developed by paying attention to intuition, stimulating the imagination, opening up new possibilities, widening views, and coming up with unexpected ideas.

One may argue that the essential skill for the 21st century is creativity. It enables people to create new technological concepts. In addition to being essential for the arts and sciences, creativity can also be applied to everyday problem-solving. Our environment is complicated and changing quickly; cognitive flexibility indicates that we adapt to the opportunities and changes that come with it. Thus, the development of innovation and the generation of new ideas depend heavily on creative thinking (Somwaeng, 2021).

Improving creative thinking involves improving test scores for students' ability to understand issues and solve them in an open, adaptable, and creative manner. The four indicators of creative thinking skills—fluency, flexibility, elaboration, and originality—can be used to measure or assess a student's creative thinking skills (Rosha et al., 2023).

For students to deal with issues in their studies and daily lives, creative thinking is crucial. When one's capacity for creative thought grows, one will be able to generate ideas, identify linkages between things, exercise their imagination, and see things from a variety of angles. Students with strong creative thinking abilities frequently feel challenged and motivated to tackle various learning challenges. Curiosity arises from interest in finding a solution to this issue. To understand how ideas that have been taught and those that are currently being studied relate to one another and to solve issues, curiosity is an essential component of learning (Handayani et al., 2021).

Junior high school science classes employ integrated science learning, or "integrative science," rather than treating it as a separate scientific field. It is anticipated that integrated science learning would promote scientific process skills, critical and creative thinking abilities, and a scientific mindset. Learning science calls for those with innovative thinking skills. The goal of creative thinking is to produce something novel. Generally speaking, creative thinking is an intellectual process that yields thoughts, ideas, information, comprehension, and discoveries. restriction of original thought because creating something new from different thoughts, ideas, facts, experiences, or knowledge that exists in the human mind in relation to the indications and execution (Madyani et al., 2019).

Learning science necessitates the use of creative thinking abilities. Science education equips students with the critical, creative, and logical thinking skills necessary to address societal problems brought on by the advancement of science and technology. Science is considered as one of the key pillars of nation-building (Madyani et, al., 2019).

Additionally, the students' limited creative thinking abilities, require further investigation to identify effective strategies for their development. It is crucial to comprehend the elements that contribute to the growth of creative thinking abilities, particularly the internal factors. Everyone possesses creativity and has the capacity to develop their creative thinking abilities. Creative thinking skill is, of course, correlated to other psychological aspects, which means that to develop them, we should consider students' psychological self-perception, expectations, or needs like creative self-efficacy, self-confidence, curiosity, and imagination (Harum and Rusmayadi, 2023).

Some studies conducted in previous years have shown a correlation between creative self-efficacy and creative performance or production. The more creatively self-aware an individual perceives, the more likely they are to use their creativity. Therefore, throughout learning, learners will generate more creative solutions the more they experience a strong sense of self-efficacy and creative self-efficacy (Puozzo et al., 2021).

However, there is a brain barrier that prevents someone from coming up with new ideas while addressing problems because they are unable to see beyond what they have previously been exposed to in connection with the issue at hand which is called cognitive fixation.

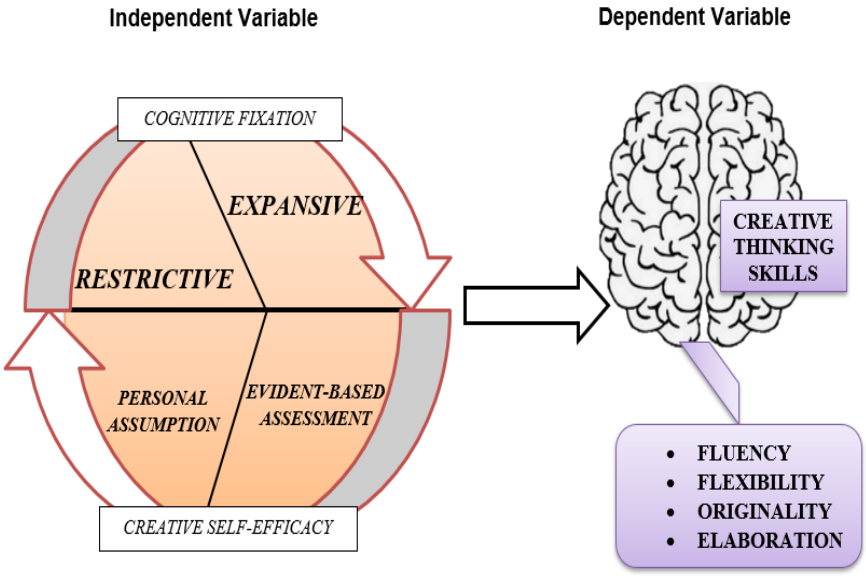

Figure 1: Research Framework

2. Research Problem

Specifically, it sought to answer the following questions:

1. To what extent do the learners practice cognitive fixation as to:

1. 1 restrictive; and

1.2 expansive?

2. How can learners creative self-efficacy be described as to:

2.1 personal assumptions: and

2.2 evident-based assessment?

3. What are the learners level of creative thinking skills in terms of:

   3.1. fluency;

3.2. flexibility;

3.3. originality; and

3.4. elaboration?

4. Is there a significant relationship between cognitive fixation practice by learners and their creative thinking skills?
5. Is creative self-efficacy of the learners related to their creative thinking skills?

3. Materials and Methods

The study utilized a correlational research design, which is a research technique employed to explore the association among variables without the researchers intervening or manipulating anything. The purpose of this design was to identify the strength and direction of the correlation between two or more variables (Bhandari, 2023).

The participants in this research were Grade 10 students from San Pedro Relocation Center National High School in San Pedro City, Laguna, aged between 15 and 18 years. There were 120 participants, 55 of whom were male and 65 of whom were female. The entire group was considered without using a specific sampling technique to ensure a diverse range of students from the selected grade level.

This study was conducted at San Pedro Relocation Center National High School in San Pedro City, Laguna, during the third quarter of the 2024–2025 academic year, particularly from January to February 2025. The research was conducted over the week to fit the students' schedules, as it aligned with Tech-Vocational Week, when students participated in their Technology and Vocational Education (TVE) specialization activities. The study involved 120 Grade 10 students, aged 15 to 18 years, chosen from various classes. The implementation of research tools took place during available time slots within class hours, coordinated by subject teachers and school administrators. Initially, every participant completed the Creative Self-Efficacy Questionnaire along with the Cognitive Fixation Questionnaire, which collectively required around 10–15 minutes. These instruments were designed to evaluate their self-assessed creative confidence and inclination towards either constrictive or broad cognitive fixation. After that, students were assigned a performance task where they had 10 minutes to come up with as many creative solutions as they could for the challenge: "Create a method to stop a hen's egg from breaking when dropped from a height of 10 meters." Responses were assessed to ascertain if they indicated restrictive fixation (dependence on known or replicated solutions) or expansive fixation (innovative, adaptable methods).

Finally, the students finished an open-ended Creative Thinking Skills Test concerning the reproductive system in science, which evaluated fluency, flexibility, originality, and elaboration in their written replies. This part required roughly 15–20 minutes to finish. To analyze and interpret each outcome, the collected data were grouped, tabulated, and will be statistically handled.

The instrument used in the study was in the form of students' creative thinking questions based on the indicators of students' creative thinking were used and adapted from Mulyaningsih et. al, (2024). The creative thinking skills instrument contained six questions which were representations of the four indicators namely fluency, flexibility, originality, and elaboration. It was adopted from a developmental research study, which is about an instrument for reproductive system. According to the validation from the experts out of 10 questions that was made by Mulyaningsih et al. (2024), 7 were accepted. On the positive note, the reliability of 7 questions reached a score of 0.73 that was categorized as high.

The matrix for evaluation of the creative thinking skills was adapted from the same study. According to Mulyaningsih et. al., (2024) the number of comparisons for these indicators was adjusted based on the content of the reproductive system material. The test was used to measure the creative thinking skills as an example of Guilford's alternative uses task. The criterion for creative thinking skills that was used in Mulyaningsih et. al., (2024) study was also adapted to interpret the scores of the students.

For fixation, the students were asked of a design or way to drop a hen's egg from a height of 10 meters, so that it would not break. Their answers will be identified as restrictive and expansive examples. The students also answered a fixation questionnaire developed by the researcher inspired by the research study conducted by Wang et. al, (2023). The teacher also had a checklist to determine the level of fixation in each student. Moreover, the creative self-efficacy questionnaire was adapted which was composed of two sub-scales; (1) Personal assumptions (2) Evidence-based assessment of creative self-efficacy.

To establish the validity and reliability of all the instruments, they were subjected to expert validation by master teachers and one head teacher from San Pedro Relocation Center National High School. Through their comments, the items were improved in clarity, content relevance, and alignment with research goals. Reliability of the instruments through testing provided coefficients between 0.60 and 0.80, verifying that all the tools applied within the study fell within the standard range of internal consistency and thus were deemed reliable.

4. Result and Discussions

The results in Table 1 show that learners practice their cognitive fixation as to restrictive fixation with a mean of 2.91 and a standard deviation of 0.46. Among all the indicators, the highest mean of 3.00 suggests that learners prefer familiar solutions to exploring innovative methods. The lowest mean of 2.73 indicates that they struggle when previously acquired solutions are no longer effective. This fits with the notion that learners operate in well-organized settings that place great importance on well-worn methods.

This result shows a tendency of learners to fall back on well-established problem-solving methods, even when these methods are no longer appropriate in new situations. While restricting fixation may hinder the generation of new and diverse ideas, it also indicates a desire to repeat familiar patterns and enhance comprehension through repetition. This can be seen positively since frequent exposure to familiar strategies allows learners to achieve fluency and mastery, especially in basic problem-solving tasks. As noted by Wang, Okada, and Takagi (2023), while restrictive fixation might initially limit creativity by binding cognitive processes to established norms, it can also provide a solid foundation that enables students to build confidence before gradually moving towards to more innovative strategies. Their work highlighted that learned environments, which tend to nurture restrictive fixation, play a major role in the development of procedural fluency in learners. This suggests that restrictive fixation, in moderation, can be an instructional scaffold, especially for learners still building core competencies.

Table 1. Extent of Cognitive Fixation Practices of the Learners as to Restrictive

Restrictive	Mean	SD	VI
1. Incorporate or copy features and characteristics from the examples.			
	2.97	**0.81**	**P**
2. Stick to familiar solutions rather than exploring new strategies.	**3.00**	**0.69**	**P**
3. Generate ideas in similar categories.	**2.98**	**0.65**	**P**
4. Find it difficult to find another solution when the learned one is not applicable.	**2.73**	**0.84**	**P**
5. Show resistance towards external comments, suggestions, and questions regarding the development of the idea.	**2.89**	**0.67**	**P**
Overall Mean	**2.91**	**0.41**	**P**

Legend: *3.5- 4.00 Highly Practiced (HP); 2.5 -3.49 Practiced (P); 1.5 -2.49 Low Practice (LP);*

1.0-1.49 Not Practice at all (NPA)

The frequent use of examples and templates in the classroom setting was beneficial in attaining academic goals; however, it can often lead to restrictive fixation. The data reveal that learners can improve their creative thinking skills and potentially overcome fixation by incorporating open-ended and reflective activities. Nonetheless, these resources are vital in helping learners develop foundational knowledge and confidence in their procedural abilities. When students face familiar situations, they will instinctively understand what to do, showing that they have absorbed essential strategies and can apply them effectively. The background of the respondents additionally reinforces this interpretation, which Grade 10 students aged 15 to 18, who are at a crucial phase of cognitive growth and are often immersed in organized learning settings that emphasize procedural mastery. Considering that these students have recently taken part in PISA pre-tests that emphasized problem-solving and creative thinking, their dependence on well-known strategies might indicate both their education and the academic stresses linked to standardized testing. Moreover, most of those who aren't involved in school-based organizations might find fewer outside opportunities for experimenting with several techniques, therefore fostering a more structured attitude.

Furthermore, as learners within a public high school system in the Philippines, which frequently prioritizes output-oriented education and structured teaching, their inclination toward limited focus is reasonable. Thus, while restrictive fixation poses obstacles to creative exploration, it also serves as a foundation for cognitive development, particularly when supported by thoughtful educational strategies

Table 2. Extent of Cognitive Fixation Practices of the Learners as to Expansive

Expansive	Mean	SD	VI
1. Generate concepts that were not derived from the knowledge of existing solutions.	**2.53**	**0.72**	**P**
2. Can easily identify the complexities in the implementation of the concept.	**2.75**	**0.68**	**P**
3. Generate alternative concepts by approaching them from a new angle.	**2.86**	**0.76**	**P**
4. Evaluate the design or solving process and consider others' ideas and other possibilities.	**3.15**	**0.73**	**P**
5.Can detach from ideas that are not satisfactory or do not contribute to the development of the process and ideas.	**2.80**	**0.69**	**P**
Overall Mean	**2.82**	**0.42**	**P**

Legend: *3.5- 4.00 Highly Practiced (HP); 2.5 -3.49 Practiced (P); 1.5 -2.49 Low Practice (LP);*

1.0-1.49 Not Practice at all (NPA)

The table 2 reveals that the learners practice their cognitive fixation as to expansive with an overall mean of 2.82 and standard deviation of 0.42. Among the indicators, the highest mean of 3.15 relates to the learners capacity to evaluate the design or problem-solving process and ponder alternative ideas and options. This suggests an openness to consider a growing ability to engage with concepts beyond surface level, and conversely, the lowest mean of 2.53 indicates that learners struggle to generate ideas are not rooted in prior knowledge or previously addressed issues. This result indicates a transitional phase in creative growth, where learners show some receptiveness to new concepts yet still depend on established cognitive habits. These results may also reflect classroom experience, where students typically concentrate on tasks with established formats and predetermined results, allowing minimal space for divergent or exploratory thinking.

This implies that students still rely significantly on established models, which indicates a strong grasp of fundamental knowledge and existing frameworks. Positively, they demonstrate creative potential through their ability to rethink established ideas and alter viewpoints, reflected in a relatively strong mean score of 2.86. This indicates that learners are starting to view concepts from a different perspective, an important step in fostering flexible thinking. While they may currently show some hesitation to completely departing from familiar patterns, this also creates a chance, with more assistance and exposure to open-ended, inquiry-based activities, learners were ideally situated to develop the confidence required to create unique ideas and innovative outside of established parameters. Additionally, according to their profile, a majority of learners are not engaged in school-based clubs or extracurricular creative activities, which might have further facilitated exploration outside academic frameworks. Their creative expressions may therefore be in most cases determined by the limitations placed within the classroom.

These patterns are the result of the learning environment in secondary education that mostly values correctness, task completion, and model imitation rather than creativity. Muñoz, Weisberg, and Robson (2023) discuss that the learning environment that promotes conformity probably encourages routine cognitive orientations. Learners can be very skillful at changing pre-existing ideas, but they may hesitate to use exploratory reasoning that is not linked to expected outcomes. This underlines the importance of learning opportunities that promote self-directed thinking, allow for uncertainty and risk-taking, and enhance metacognitive awareness, all of which are essential to developing creative minds. The findings suggest that there is support for the development of instructional strategies that progressively shift from highly structured activities to more open exploratory tasks, allowing learners to foster advanced thinking in a scaffolded, step-by-step manner.

Table 3. Learner's Creative Self-Efficacy as to Personal Assumptions

Personal-based assumptions	Mean	SD	VI
As a student I…			
1. Am not afraid to express my ideas.	**2.88**	**0.72**	**C**
2. Am confident I can think of original and creative solutions to a problem.	**2.63**	**0.69**	**C**
3. Am confident that I can deal with unexpected events.	**2.52**	**0.77**	**C**
4. Feel confident working on a problem even when others are not present.	**2.61**	**0.80**	**C**
5. Can analyze problems from different perspectives.	**2.84**	**0.80**	**C**
6. Know I can solve complicated problems.	**2.42**	**0.77**	**SC**
7. Am able to adapt to changing situations.	**2.67**	**0.75**	**C**
8. Have unique ways to solve or answer problems.	**2.55**	**0.81**	**C**
9. Am willing to take risks.	**3.08**	**0.84**	**C**
10. Can remain calm when facing difficulties because I can rely on my creative abilities.	**2.82**	**0.85**	**C**
Overall Mean	**2.70**	**0.48**	**C**

Legend: *3.5- 4.00 highly Confident (HC); 2.5 -3.49 Confident (C); 1.5 -2.49 Slightly Confident (SC);*

1.0-1.49 Not Confident at all (NCAA);

The result from table 3 reveals that learners feel confident in their creative self-efficacy as to personal assumptions, with a mean of 2.70 and a standard deviation of 0.48. Among the indicators, the highest mean of 3.08 suggests that learners are willing to take risks, a significant characteristic that promotes creative thinking and exploring new concepts. Conversely, the lowest mean of 2.42 suggests that certain students experience reduced confidence when encountering more complicated and unfamiliar tasks. It indicates that while students are at ease sharing thoughts and participating in class, they are still building the confidence needed to tackle more difficult topics. This represents an expectation in nurturing creative skills and shows that students are progressing toward strengthening their creative identity.This development is in line with their learning context, in which students tend to participate in cooperative but structured activities that foster risk-taking in known situations, and more difficult challenges receive additional support and experience.

The findings also highlight how the classroom setting can influence students' beliefs in their creativity. Frequent class discussions and group work help the learners feel more comfortable speaking out and collaborating with peers. However, some factors, such as time constraints, curriculum mandates and large class sizes, may limit individual creativity, particularly in the case of complex assignments. As students in a public high school where academic success is frequently emphasized over exploration, these learners might not consistently encounter sufficient chances to fully cultivate or demonstrate their creative self-efficacy, particularly in activities that go beyond standard performance. Additionally, the low participation in extracurricular or club activities, which typically provide alternative spaces for creative risk-taking, can contribute to restricting exposure to diverse creative experiences.

According to Abulela (2024) and Valquaresma et al. (2022), students' perception of their creative ability is directly linked to their self-image and motivation to engage in creative activities, both of which are influenced by their educational background. Therefore, providing students with various creative experiences—both inside and outside the classroom—can foster greater confidence and a stronger creative self-identity over time.

Table 4. Learner's Creative Self-Efficacy as to Evidence-based Assessment

Evidence-based assessment	Mean	SD	VI
As a student I…			
1. Can generate more ideas in more varied categories.	**2.57**	**0.64**	**C**
2. Can solve problems efficiently even complicated problems.	**2.43**	**0.66**	**SC**
3. Can utilize the available materials to improve my work or task.	**2.93**	**0.63**	**C**
4. Can visualize solutions to complex problems and identify the flaws in concepts leading to ideas that are more feasible.	**2.55**	**0.80**	**C**
5. Can find at least one solution for any difficult situation.	**2.77**	**0.63**	**C**
6. Enjoy discussing new ways to solve problems.	**2.89**	**0.85**	**C**
7. Can propose "out of the box" solutions.	**2.39**	**0.78**	**SC**
8. Enjoy brainstorming with my classmates to generate creative solutions.	**2.78**	**0.94**	**C**
9. Can redefine objectives and start again from the beginning when faced with failure.	**2.93**	**0.74**	**C**
10. Can combine ideas in ways others have not tried.	**2.88**	**0.76**	**C**
Overall Mean	**2.71**	**0.44**	**C**

Legend: *3.5- 4.00 highly Confident (HC); 2.5 -3.49 Confident (C); 1.5 -2.49 Slightly Confident (SC);*

1.0-1.49 Not Confident at all (NCAA);

Table 4 indicates that learners are confident on their creative self-efficacy as to evidence-based assessment with the overall mean of 2.71 and standard deviation of 0.44. The most highly rated indicators, both having a mean of 2.93 indicate that learners are confident that they can adapt to different circumstances and continue tasks after experiencing setbacks. They also have confidence in utilizing available materials to improve the quality of their output. These strengths are probably a result of their continuous participation in organized classroom activities, where expectations and available resources are explicitly defined. Additionally, this consistent engagement with formal tasks would likely cultivate a proficiency in standard challenges, thereby enhancing their assurance in handling tangible aspects of creative work.

However, the lowest mean of 2.39, which falls under slightly confident, suggest a degree of uncertainty in proposing innovative or unconventional solutions. This implies that while learners are guaranteed to complete assigned tasks and use tool effectively, they may feel less assured when asked to come up with unique ideas or taking creative risks. This may be partly due to their minimal exposure to exploratory or informal activities, as indicated by their self-reported lack of participation in extracurricular groups or creative clubs, which often encourage risk-taking and creativity.

These findings offer insight into how learners' creative self-efficacy, shaped by real classroom experiences. The type of tasks they encounter and the rewards they receive affects it. As explained by Haworshi et al. (2017) and Valquaresma et al. (2022), evidence-based creative self-efficacy arises from personal experience, previous achievements, and assistance from the educational environment. When learners are often guided through set activities, they gain skills in following procedures and using materials. Yet, having fewer, opportunities to engage in open-ended or creative tasks may lead to reduced confidence in expressing original ideas. Consequently, the data suggest a trend of realism, as students express feeling assured with guided, resource-oriented tasks but would benefit from further experiences that foster creativity and innovative exploration. This highlights the importance of balancing

tructured practice with opportunities for creativity in the learning setting.

Table 5. Learner's Level of Creative Thinking Skills in terms of Fluency, Flexibility, Originality and Elaboration

Grade	Fluency		Flexibility		Originality		Elaboration		Level of Creative Thinking
	F	%	F	%	F	%	F	%	
95-100		0	3	3		0	1	1	VC
90-94	8	7		0		0	6	5	C
85-89	26	22	49	41	9	8	29	24	M
80-84	56	47		0		0	41	34	L
75-79	30	25	68	57	111	92	43	36	VL
Total	120	100	120	100	120	100	120	100	

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Legend: *95-100 Very Creative (VC)**;** 90-94 Creative (C); 85-89 Moderate (M)**;**80-84 Low (L); 75-59 Very Low (VL);*

The data in Table 5 illustrates the overall level of creative thinking skills for the learners based on the four main indicators: fluency, flexibility, originality, and elaboration. While most of the learners demonstrated very low levels for flexibility, originality, and elaboration, and a low level for fluency, these results do not merely indicate underperformance but reveal potential areas for improvement within the educational setting. They emphasize the potential for development of learners' creative thinking skills, particularly when directed by intentional teaching strategies. For instance, the limited display of flexibility suggests that learners may still be unfamiliar with redirecting issues or considering them from various perspectives.

This requires participating in tasks that encourage varied perspectives, such as open-ended problem-solving or design-focused challenges. Moreover, low ratings in originality and elaboration could suggest educational environments that emphasize accuracy over creativity or that restrict exploration and the quest for new ways of self-expression. Instead of being able to explore new or unconventional ideas on their own, students might be producing answers they believe are safe or conventional. This suggests that boosting students' belief in their capacity for creative thinking, or creative self-efficacy, is crucial since it greatly affects their performance. These skills can be developed by concentrating on reflective techniques, group idea creation, and activities that emphasize creativity rather than accuracy. Additionally, limited practice in poorly defined tasks may result in fewer opportunities to cultivate ideas beyond shallow thinking. This does not pertain to diminished ability, but instead to more regular and directed creative experiences.

Though fluency had significantly improved, it was still evident that more effort was needed. The capacity to generate diverse ideas serves as a solid foundation for future growth and demonstrates that students can think critically when confronted with difficulties. Building on this foundation, educators can offer more complex opportunities to enhance and expand these ideas, transforming quantity into quality. Their recent exposure to PISA-type tasks may have initiated growth in fluency, yet the limited results in originality and flexibility suggest a need for targeted support to develop higher-order creative abilities. The results provide a point of reference for focused intervention in the classroom. According to Zulyusril et al. (2023), fluency may develop more organically in traditional settings, while creativity and adaptability need to be fostered. Therefore, the current findings are not limitations but rather a diagnostic observation regarding the potential sites for cognitive fixation remediation and the development of creative self-efficacy. With appropriate educational assistance, these students are set to improve their creative thinking abilities and grow more confident, competent, and flexible in their thinking. Taking the current skill levels as starting points allows educators to develop strategies that foster creative potential in ways that are inclusive and attainable.

Table 6. Correlation between Cognitive Fixation Practices and the Learner's Creative Thinking Skills

Cognitive Fixation	Fluency	Flexibility	Originality	Elaboration
Restrictive	.228*	0.156	0.050	.184*
Expansive	0.012	0.060	0.001	-0.163

*. Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows that there is no significant relationship between cognitive fixation practices and the learners creative thinking skills except for fluency and elaboration as to restrictive fixation. This implies that students who regularly participate in activities with defined frameworks or specific instructions generally excel a bit more in producing a variety of ideas and elaborating on those ideas with clarity and organization. While this does not demonstrate a casual relationship, it provides a theoretical insight into how structured thinking task can relate to specific elements of creative thinking. This might also indicate the familiarity and ease of the learners with formal academic expectations, which they can relate to their present level of cognitive development and educational exposure.

From a theoretical standpoint, this correlation can be productively explained using cognitive load theory and structured-supported creativity models. Restrictive fixation, like structured guidance, can assist in directing learners' cognitive resources, enabling them to concentrate their attention within defined limits. As an example, learners often find that rigid structures allow them to express and elaborate on ideas much more easily due to reduced decision-making and a clearer stream of creativity. This assistance improves elaboration and decreases uncertainty at the same time, which enables learners to have an utmost controllable approach to idea generation. Considering the background of the learners—Grade 10 students in a public school context with constant exposure to teacher-centered instruction—the appropriateness of restrictive fixation in facilitating fluency and elaboration becomes more coherent.

Despite the data not demonstrating any considerable association between restrictions of fixation and other overarching facets of creativity like flexibility or originality, the use of boundaries is still valuable. It suggests that even though organized tasks do not seem to lead to innovative ideas directly, they do build a strong foundation that enhances creative thinking. In the same vein, the absence of significant relations for expansive fixation, which encourages boundless exploration, highlights that freedom is not enough for achieving unparalleled creative success devoid of intentional direction. This highlights the need for scaffolding approaches that harmonize independence with structured assistance to effectively stimulate the learners' imaginative abilities. The results reveal the subtle yet profound impact that cognitive fixation can exercise on creative development.

Table 7. Correlation between Creative Self-efficacy and the Learner's Creative Thinking Skills

Creative Self-Efficacy	Fluency	Flexibility	Originality	Elaboration
Personal assumption	**-0.037**	**0.022**	**-0.044**	**0.171**
Evidence based	**-0.069**	**-0.063**	**0.044**	**0.141**

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 7 demonstrates that there is no significant correlation between the two aspects of creative self-efficacy—personal beliefs and evidence-based evaluation—and the four indicators of creative thinking skills. This indicates that students who consider themselves creative, whether because of self-confidence or previous achievements, do not consistently excel in actual creative assignments. This inconsistency in self-assessment may suggest that although students possess strong confidence in their creativity, their self-evaluated creativity does not always align with their actual demonstrated creative thinking skills. These self-assessments may be shaped by self-esteem or previous informal experiences instead of being based on formal or skill-oriented creative practice.

These findings reveal a disparity between students' internal self-images and their external creative outputs, underscoring the complexities of fostering creativity in academic settings. Based on cognitive fixation studies, one interpretation suggests that students may inflate their creative skills while simultaneously engaging in rigid or habitual thought processes that limit genuine performance. The constraint-based creativity theory suggests that students may possess unspoken beliefs or established routines that restrict creative thought, despite feeling inventive (Smith & Ward, 2020). Furthermore, the absence of significant results may suggest a lack of adequate opportunities to engage in authentic creative endeavors. Notably, most of the participants reported that they do not belong to clubs or creative organizations at the school level. The lack of involvement can result in limited chances to practice, contemplate, and refine their creative abilities in genuine or cooperative settings—circumstances essential for fostering both creative outputs and accurate self-evaluation (Sawyer, 2019; Hargrove, 2020).

The gap between beliefs and demonstrated ability has important teaching implications. It suggests that while creative self-efficacy requires development, it must also be paired with official opportunities for creative practice and feedback. Reflective tasks, peer evaluation meetings, and structured creative exercises can help students align their self-assessments with actual performance in the real world. Aligned with cognitive load theory (Sweller et al.,

2019), instructional design should minimize unnecessary cognitive load and provide organized frameworks that enable students to effectively employ divergent thinking strategies. Moreover, support must be tailored: individuals with high creative confidence and low output may require focused skill development, while those with low creative performance but increasing confidence may benefit from positive reinforcement and recognition. Ultimately, the enhancement of creativity should be seen not merely as a belief, but as a balance among attitude, chance, and intentional effort.

Conclusions

The study revealed that there is no significant relationship between the cognitive fixation practices and the learners' creative thinking skills, except for fluency and elaboration in terms of restrictive fixation. This suggests that even under cognitive limitations, learners can show improved capability to produce various ideas and elaborate on them in more detail. These conclusions indicate that some types of cognitive fixation actually encourage certain creative abilities. Therefore, the null hypothesis is partially sustained, revealing valuable insights into how cognitive barriers may support the development of particular creative thinking skills. Furthermore, there is no significant relationship between the learner's creative self-efficacy and their creative thinking skills. Therefore, the null hypothesis is sustained.

Recommendations

Based on the results and conclusion, the researcher proposes the following recommendations:

Because there was no significant relationship between cognitive fixation and creative thinking abilities, teachers may consider adopting an equilibrated method with some structural tasks and some open tasks to facilitate different types of creativity. Future studies was recommended to used teacher ratings or class observations to better measure and investigate how different instruction approaches can interact to affect creativity.

The study reveals that there is no significant correlation between the creative self-efficacy of learners and their creative thinking skills. This indicates that there is no guarantee that high creative self-belief will equate to improved creative performance. Future studies may consider employing a cognitive-focused quantitative evaluation that assesses both objective creative self-efficacy and real creative performance. This evidence-driven approach may help educators better identify and support students who may appear confident yet require additional help in enhancing their creative thinking abilities, and vice versa.

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