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Essay

# Differences in the Creative Thinking of Primary School Female Teachers in Al-Ahsa Governorate in Light of the Variables of Experience and Specialization

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**Abstract:** This study aimed to reveal the creative thinking of primary school female teachers in Al-Ahsa Governorate, in addition to identifying differences in light of the variables of experience and specialization. The researchers followed the descriptive method. The study was applied to a sample of (340) female teachers. The Creative Thinking Scale, which was adapted by researcher Hawzam Salman (2021), was used. The study concluded that the female teachers of primary stage in Al-Ahsa Governorate have creative thinking at a high degree; in addition, there were no differences in light of the variables of experience and specialization.

**Keywords:** creative thinking; female teachers; Al-Ahsa Governorate; Al-Ahsa Governorate

## Introduction

### Creative Thinking Skills:

Humans are considered the main operator of various energies and resources, and without humans, wealth becomes of little value. Therefore, educational institutions seek to prepare and qualify creative students who are able to invest the available societal wealth in an effort to develop (Al-Wahsh, 2017). One of the most important wealth existing in societies is the human being and his ability to develop himself and benefit from his capabilities in an effort to develop them, which results in improving the institutions and various components of society. Creativity is one of the most important learning skills in the twenty-first century. Therefore, developing creativity is necessary in order to achieve effective and high-level learning in educational institutions. As various approaches to its study, creativity has been defined as an outcome, as a process, as a construct derived from the influence of context and experience and as a personal feature of human nature. The aim of this contribution is to explain the study of creativity from the aforementioned approaches to achieve an understanding of this construct. In addition to highlighting the development of creativity from an educational approach, starting from describing and influencing the use and application of creative strategies in the teaching and learning processes (Mahmoud; Marghani and Naji, 2022). Creative thinking provides society in general with the ideas it needs and aspires to with the aim of moving it from traditional to contemporary, modernizing, and following the standards of developed societies. Creativity, as Al-Kinani (2015) sees, is an effective means of reducing the cultural and scientific gap between nations, and it is an important element in the progress of nations in every world, at all aspects of life. As for creative thinking in the field of education, it takes more than one manifestation,

and may be linked to the skills of male and female teachers, educational systems and curricula, or the quality of the students themselves. The teacher remains the essential element in any educational renewal, because he is one of the largest inputs to the educational process after the learners. The teacher is the primary participant in determining the quality and direction of education, and thus determining the quality of the future generations and the lives of nations because he is the one who works to know and develop the students' abilities, skills, ways of thinking and teaching by preparing and organizing the educational process and controlling its interactive path. The teacher is the pillar of all social and educational reform, and a cornerstone of the educational process. It is his responsibility to achieve the desired goals in the educational process at all its stages (Salman, 2021).

The teacher plays the greatest and most important role in terms of nurturing and stimulating students' creative thinking and developing it. Therefore, no matter how prepared the textbook is that contains all the important elements, he does not perform the appropriate role without the educational teacher, or when the content of the textbook is implemented by a teacher who does not have the ability or qualification to perform the role assigned to him. Different societies may not benefit from the large amount of knowledge in the absence of the educational teacher, because he is the creator of development and modernity, and he is the person concerned with implementing the textbook, and achieving teaching and educational goals (Al-Alawi, 2021).

Creative thinking skills are "specific mental processes that we practice and use intentionally in processing information and data to achieve various educational goals, ranging from remembering information, describing things, and taking notes, to predicting things, classifying things, evaluating evidence, solving problems, and reaching conclusions" (Al-Qawasmeh and Abu-Ghazaleh, 2014). While Al-Binali (2005, p. 80) defined creative thinking skills as "a new purposeful production directed towards a specific goal, which is the mind's ability to form new relationships that actually bring about a change in the student's reality, as it goes beyond memorization and memorization to thinking, study, analysis, deduction, and then innovation and creativity." If creative thinking represents one of the higher types of thinking, then it is represented in a set of important skills that constitute the basic elements in this type of thinking, and many researchers have emphasized this (Jarwan, 2016; Salem et al., 2017; Fathallah, 2020), the most important of which is :

**Fluency:** speed or ease in presenting ideas or solutions to problems in a way that suits the requirements of the real environment, so that the ideas are not random and resulting from lack of knowledge and ignorance or based on an incorrect and unacceptable assumption. It represents the quantitative aspect of creativity (Khairallah, 2015). Abu Zaid (2017) and Al-Dhuwaibi (2022) point out the most important types of fluency, which are the fluency of symbols and words, the fluency of meanings and ideas, which is represented in giving the largest amount of ideas related to a specific topic, expressive fluency, which is related to formulating correct ideas characterized by diversity and scarcity, and associative fluency, which is the ability to generate the greatest amount of ideas related to a specific topic under the availability of certain conditions in terms of meaning.

**Flexibility:** It is defined by Fagerberg et al, 2006: as the ability to generate diverse ideas, change the actual situation to suit the complexity of the creative situation, produce types of ideas, or use a different set of strategies. Flexibility is the opposite of mental rigidity, which means adopting predetermined or unchangeable mental patterns (as cited in Shaloul, 2019). It represents the qualitative aspect of creativity.

**Originality:** It is the characteristic most associated with creativity and creative thinking, and originality here means novelty and uniqueness, and it is the common factor among most definitions that focus on creative products as a criterion for judging the level of creativity, but the problem here is the lack of clarity about the reference body that is taken as a basis for comparison (Yakan, 2020). Originality is also known as coming up with new, rare, and unusual ideas based on the individual's previous experiences and expertise and not on anything at all (Musa, 2020).

**Details or Elaboration:** means the ability to add new and diverse details to an idea, solution to a problem, or painting that will help develop, enrich, and implement it (Al-Harbi, 2020). **Sensitivity to Problems:** awareness of the existence of problems, needs, or weak elements in the environment or situation, which is the first element in solving the problem, defining the problem clearly, developing

hypotheses or preliminary solutions to the problem, trying these solutions, and directly implementing the solution (Al-Osaimi, 2019).

#### *Problem of the Study*

The problem of the study is represented by the following questions:

1. What is the general characteristic of female teachers in creative thinking at the primary stage in Al-Ahsa Governorate?
2. Are there differences in creative thinking among female teachers in Al-Ahsa Governorate due to the variable years of experience?
3. Are there differences in creative thinking among female teachers in Al-Ahsa Governorate due to the specialization variable?

#### *Objectives of the study:*

The study aims to reveal the differences in the creative thinking of female teachers in Al-Ahsa Governorate primary schools according to the following:

1. Revealing the general characteristic of creative thinking among primary school teachers in Al-Ahsa Governorate.
2. Detecting differences in creative thinking among female teachers in Al-Ahsa Governorate due to variable years of experience.
3. Detecting differences in creative thinking among female teachers in Al-Ahsa Governorate due to the specialization variable.

#### *The Importance of Study:*

The importance of studying creative thinking skills is evident in what is presented in the psychological aspect of self-confidence, self-acceptance, the value of belonging to the profession and professional inclinations, in addition to the economic benefit in creating job opportunities, increasing productivity and reducing effort and time in production, as well as the educational dimension in revealing gifted and innovative students and educators in general, in addition to the application of programs and curricula that enrich creative thinking by teachers with creative thinking.

This attempt comes from the researchers to address the variable of creative thinking skills, which is an extremely important aspect in the field of psychological measurement, and perhaps it has not been adequately received by those interested in creative thinking, in addition to the serious attempt to participate in enriching the Arab library with such research that may benefit researchers or decision makers with regard to educational policies.

#### *Terminology of Study:*

*Creative Thinking:* Torrance defined it idiomatically as: a process of sensitivity to problems, awareness of them, weaknesses, gaps, dissonances, and deficiencies, formulating new hypotheses, arriving at new connections using available information, searching for solutions, modifying hypotheses, re-examining them, and arriving at new results (Salman, 2021).

*Procedurally Creative Thinking:* It is the score obtained by the teacher by responding to the creative thinking scale adopted in this study.

#### *The Limits of the Study:*

*Objective Limits:* differences in the creative thinking of primary school teachers in Al-Ahsa Governorate.

*Spatial Boundaries:* The study tools were applied to some primary school female teachers in Al-Ahsa Governorate in the Kingdom of Saudi Arabia.

*Time Limits:* Between 2022 and 2023.

### *Theoretical Framework and Previous Studies*

#### *Importance and Development in Creative Thinking:*

The importance of creative thinking is that it provides self-awareness. When a person uses his thoughts, beliefs, and feelings while thinking authentically, this works to form a bias in his thought. Therefore, by putting these thoughts aside and getting to know himself in a deeper way, and knowing his strengths and weaknesses, he contributes to strengthening creative ideas. Creative thinking also contributes to increasing self-confidence because it builds confidence in giving ideas and starting to engage and contribute to groups and work in general. When creative thinking is used in a creative way to solve a matter, it increases confidence in providing assistance and presenting ideas. For example, when the principal asks to find a solution to a problem in the school and one of the teachers provides a creative solution, this increases the contribution to the work, increases the development of the school, and increases the teacher's confidence in performing her work. Creative thinking provides tremendous freedom as it makes a person interact with the world without judgment on himself during the innovation process. This is similar to what children who do not care about what others think or say about them, but rather do what they want and in their own way (Mahmoud, Marghani and Naji, 2022).

One of the importance of creative thinking is to provide courage, as the attempts made by the individual to find innovative solutions involve many critical situations and problems and difficult decision-making, which makes the individual deal with it with all professionalism to become creative in finding solutions, and this in itself gives the individual the courage to accept and implement the results, whatever they may be, and even helps him accept continuous development. Creative thinking helps to get rid of surrender. When an individual possesses the skill of creative thinking, accepting surrender to failure becomes difficult, which prompts the individual to master and develop his thinking, improve his skills and expand their fields, in order to achieve creativity in a way that is distinctive, different, and satisfactory to himself and makes him distinct from others. Creative thinking provides better productivity. Successful organizations look for an employee who thinks creatively because it produces innovative and new ideas, in addition to finding different and distinctive solutions, and thus the process of overcoming the obstacles that hinder the advancement of professional productivity in the organization becomes easier, which contributes to raising the level of innovation and creativity of the organization. The employee's use of creative thinking makes his mark in the way he works, and increases possibility of not losing in the long term. Creative thinking helps relieve stress, by eliminating the causes of stress and anxiety to create smarter and more creative ideas and solutions, which contributes to completing tasks in a more efficient manner and faster. It is known that routine and daily work is usually at the same pace and mechanism, which results in a feeling of fear and frustration, especially if impressive results are not produced. It gives the same expected results every time. Stress occurs when practicing creative thinking for people who are accustomed to shouldering multiple responsibilities and routine tasks. In this case, the solution lies in dealing with these matters that cause stress in a creative and different way that contributes to alleviating tension and removing any pressures. It provides work and group cohesion. In order to obtain the desired results and succeed in the process of applying creative thinking, one must engage with others effectively, by creating a spirit of cooperation and generating group cohesion among the work team members. This is because the public interest can only be achieved by presenting, sharing, and developing creative ideas in accordance with the nature of the work (Shaloul, 2019).

Creative thinking contributes to the development of talent and the productivity of society in all cultural, scientific and economic fields. Through this thinking, the individual looks at the dimensions of the problem and adjusts and changes them to reach an unusual solution. It also develops the individual's awareness, develops his perceptions, makes him feel his abilities, and increases his self-confidence (Abu Zaid, 2017). Bou Dahab and Qaddour (2017) stated that one of the most important features of creative thinking is that it overcomes the barriers surrounding old ideas, and this leads to changing trends and inclinations, and allows looking at things and matters in a more in-depth manner, thus liberating them from old ideas and stimulating and provoking new ideas.



### *The Role of Female Teachers and Nurturing Creative Thinking:*

The contribution of male and female teachers has become of great consideration; through the pioneering role they play in the aspect of identifying and discovering creativity, and then working to develop it among their students. In a more specific way, the role of male and female teachers appears by paying attention to aspects that can be summarized in classroom management through control, guidance, listening, appreciation of ideas and work on developing them, as well as providing a degree of confidence to present questions that stimulate the learners' thinking and lead them towards the space of creative thinking. Besides creativity in presenting educational material in a manner that enriches knowledge and works to stimulate motivation for creativity and excellence. Furthermore, paying attention to the comments made, even if they are for reasons outside the classroom and through communication with the family (Salman, 2021). The creative teacher can be described as having the ability to stimulate the imagination of students through the use of unconventional teaching methods and stimulate motivation for learning and creativity, as well as a high level of effective communication so that the teacher appears as an inspiration to students in all aspects of life, even outside the scope of the school day at school. The creative female teacher is the teacher who embodies the qualities of humanity, such as compassion for the problems that surround the students from school to the family, so that she becomes a reference for addressing and solving problems in their various forms (educational, psychological, family...) and in which the female students continue in a state of mental activity and interaction through strong relationships, friendliness and respect. In addition, the creative teacher is distinguished by his love of inquiry and perseverance in solving problems, encouraging students to suggest solutions to problems, and not imposing his own opinions and solutions. He/she also works to provide a school classroom environment that enhances intelligence and the growth of creativity and encourages every student who has the ability to be creative in some aspect, in addition to being flexible in educational situations and quick to react to what is happening around him (Salem, 2015).

### *Previous Studies:*

*Al-Dhuwaibi's (2022) study:* It aimed to identify the extent to which middle school science teachers apply creative thinking skills, and to reveal the extent to which middle school science teachers apply creative thinking skills (fluency, originality, flexibility). The questionnaire was used as a tool for the study, and the study population consisted of (210) female science teachers in government schools in Taif, and the study sample consisted of (114) science teachers, and it was revealed that the statistically significant differences at the level of significance (0.05) between the averages of the responses of female science teachers in the intermediate stage in Taif to creative thinking skills are due to the variables (qualification, Experience).

*Hizam Jassim's (2021) study:* entitled Creative Thinking Skills and the Reality of the School Psychological Climate among Primary School Female Teachers in Al-Ahsa Governorate. The study aimed to identify the relationship between the levels of creative thinking skills and the reality of the school psychological climate among primary school female teachers. The descriptive approach was used, and the sample consisted of (341) primary school female teachers in Al-Ahsa Governorate. The Torrance Scale was used to measure creative thinking, which was translated by Fouad Abu Hatab and Abd Allah Suleiman (1973), and the School Climate Scale prepared by Howe (2002). The study reached the following results: The levels of creative thinking skills among primary school female teachers in Al-Ahsa Governorate were moderate, and the positive reality of the school psychological climate in primary schools in Al-Ahsa Governorate from the teachers' point of view was 88.35%, and there was no statistically significant relationship between the sample members in the overall score of creative thinking skills according to the variables (years of experience - specialization).

*Erdem and Duygu Kaj (2019):* This study aimed to identify the opinions of primary school teachers regarding their creative thinking skills according to gender, seniority in the profession, and educational level. Research methods: In the distribution of samples, a proportional sampling method was used, and 421 classroom teachers participated in the study. Percentages and arithmetic means were used as a parametric test, while Mann-Whitney U and Kruskal-Wallis were used as non-

parametric tests. Findings: As a result of analyzing the data obtained from the scales that were administered to primary school teachers, the creativity level of primary school teachers was below average. Primary school teachers' opinions about their levels of creativity were examined based on the variables of professional seniority and educational level. The analyses showed that there were no statistically significant differences between the opinions of primary school teachers about their levels of creativity according to professional seniority and educational level

*Khayaya's (2019) study:* entitled Primary Stage Science Teachers' Practice of Creative Thinking and the Extent to Which It Achieves Aspirations for the Future. It aimed to identify the primary stage science teachers' practice of creative thinking and the extent to which it achieves future aspirations. The study relied on the descriptive approach, and the study sample consisted of science supervisors at the primary stage in the Tabuk region (13 supervisors). The study tool was a questionnaire to survey the opinion of primary school science supervisors about practicing creative thinking skills. The results of the study confirmed that developing creative thinking skills encourages students to infer new relationships and interpret them in a scientific manner that keeps pace with the times. The teacher always needs moral and material support, in addition to equipping laboratories with modern technology to create a climate for students to practice creative thinking. Paying attention to activating activities and attending forums and events leads to the activation of the teacher's research and critical memory increases his motivation for his students to use the brainstorming strategy and activating permanent competitiveness among students to encourage mental energies for creativity.

*Al-Qurna's (2018) Study:* It aimed to identify the degree of employing creative thinking skills among Islamic education teachers in the basic stage in the Marka District in the capital, Amman, according to the variables (gender, academic qualification, and years of experience). The study used the descriptive survey method. The study sample consisted of (231) male and female teachers who were randomly selected by (95) male and (136) female teachers. Using a questionnaire prepared by the researcher, it measures the degree of employing creative thinking skills: fluency, flexibility, originality, and scope for expansion. The study reached the following results: The score for the skills of employing creative thinking among Islamic education teachers was average for all creative thinking skills, and there were statistically significant differences according to years of experience and in favor of more than 10 years compared to 5-10 years.

*Abu Jariban's (2018) study:* It aimed to investigate the degree to which ninth-grade English language teachers practice creative thinking skills. The study sample consisted of (45) male and female ninth-grade teachers in government schools of the Directorate of Education of the Southern Shuna District in the Balqaa Governorate in Jordan. They were selected randomly. As for the study tool, the researcher developed a note card that included (36) creative thinking skills. The results of the study found that the degree of practice of creative thinking skills by ninth-grade English language teachers is moderate.

#### *Study Method and Procedures*

*Study Methodology:* In order to achieve the objectives of the study, the researchers followed the descriptive approach as it is appropriate for this study. The descriptive approach in its entirety is collecting data to reach the final result of the study. Descriptive studies do not control the nature of the treatment, but study the variables as they are found in nature or reality as it originally exists. Therefore, it is collecting information about the phenomenon in order to describe it quantitatively and qualitatively (Al-Qahtani, 2020).

*Study Population:* The research community consists of female teachers in Al-Ahsa Governorate's daytime primary schools for girls in governmental public education, and the size was (3175) female teachers (<http://hasaedu.sa/Ehsa>).

*Study Sample:* A simple random sample consisting of (340) female teachers from primary schools in Al-Ahsa Governorate. The variables of experience and specialization were identified.

*The study tool:* The Creative Thinking Scale was used, the verbal image (a), which was adapted by the researcher Hatham Jassim (2021). The veracity of the content was verified after it was presented to a number of arbitrators and experts specialized in education and psychology. The scale

achieved acceptable reliability and validity indicators, respectively (construction validity 0.86) and (Alpha Cronabakh reliability 0.98), thus it is suitable for the purposes of the current study.

#### *Present and Discuss the Results*

The result of the first hypothesis, which states: "The general characteristic of female teachers in creative thinking in the primary stage in Al-Ahsa Governorate is high."

To identify the general characteristic of creative thinking for primary school teachers in Al-Ahsa Governorate, a One Sample T-Test was used, and the results were, as shown in Table 1 as follows:

**Table 1.** One Sample T-Test.

Dimension s	No .	Arithmeti c Average	Hypothetica l Average	Standard Deviation	Degree of Freedom	Valu e (v)	Significanc e Level	Conclusio n
Creative Thinking	340	47.92	17.96	21.32	339	49.22	.000	Height

The result of the statistical treatment of the general characteristic of the creative thinking of female teachers in the city of Al-Ahsa showed the following results: the arithmetic mean was (47.92), the hypothetical mean was (17.96), and the standard deviation was (21.32). The result of the calculated t-value was (49.22) and the probability value was (0.000), so the conclusion became that the general characteristic of the female teachers' creativity was high, and thus it is clear that they have creative thinking.

The statistical result confirmed the hypothesis that female teachers in the primary stage are characterized by creative thinking. This result may be attributed to the general conditions that must be met by everyone who desires to join the teaching profession in the Kingdom of Saudi Arabia. They can be summarized as the necessity of graduating from Colleges of Education or obtaining a higher qualification appropriate to the field or specialty of teaching. She must have practiced the teaching position as an assistant teacher for at least one year, besides obtaining a certificate of fitness to practice the profession. In addition to that, the nature of the educational tasks for teachers is to explain the curricula for which they are responsible according to the educational stages they are directed to planning and preparing lessons and educational materials and conducting them according to the announced study schedules. As well as, motivating students and directing them towards the curriculum. Additionally, the teachers work to guide students to develop creativity and choose specializations that suit their thinking abilities. Furthermore, developing students' skills and solving their problems that coincide with specific periods or age groups, then renewal, innovation, and use of modern teaching methods. Preparing and participating in school and student activities are considered as crucial steps to be followed. Finally, working on general supervision of students inside the facility, continuous training and development by the Education Office give teachers more confidence and promotion. All of this may be the explanation for the availability of parameters on the creative thinking trait.

This result agreed with the study of Al-Tuwayriq (2022), Abu Jariban (2018), Al-Qarna (2018), Al-Rashidi (2016), and Al-Kassab (2015), in that all the aforementioned studies concluded that male and female teachers possessed creative thinking, despite the different places in which these studies were conducted. On the other hand, this study differed from the study of Salman (2021), Reda (2019), and Sabira (2017) in the lack of the creative thinking trait among female teachers, and these results were followed by an explanation that seems acceptable.



Results of the second hypothesis, which states: "There are differences in creative thinking among female teachers in the city of Al-Ahsa due to the variable years of experience." The researchers applied a one-way analysis of variance. Table 2 shows the results of the statistical analysis:

**Table 2.** Results of Statistical Analysis.

Variables	Source of Variance	Sum of Squares	D H	Mean Squares	%	Probability Value	Conclusion
Creation	Between groups	1175.180	2	587.590	1.831	192	There are no differences
	Within groups	108119.981	337	320.831			
	Total	109295.162	339				

The result of Table 2 showed the statistical treatment of the differences in the creative thinking of female teachers in the city of Al-Ahsa according to the variable of experience. The sum of squares for the variance between groups was (1175.180), the sum of squares for the variance within groups was (108,119.981), the sum of squares for the total variance was (109,295.162), and the average of squares between The groups (587.590) and the mean squares within the groups (320.831) were the result of the calculated F value (1.831) and the probability value of the variance (0.162). The conclusion becomes that there are no differences in the creative thinking of female teachers in Al-Ahsa city according to years of experience, meaning that years of experience do not reveal a difference between the parameters as revealed by the current result.

The statistical result indicates a violation of the alternative hypothesis that there are differences in creative thinking among female teachers in the city of Al-Ahsa due to the years of experience variable. The researchers explain this result on more than one occasion. There may be a note about the descriptive data collection tool in terms of careful examination of the extent of understanding of the variable of years of experience among teachers or perhaps experiences in the field of education have converged through the development of training and qualification, which works to reduce differences in capabilities and experiences in order to create a team of teachers with a degree of consistency in performance and knowledge production, and the style and approach of managing the educational process. Added to this, is the justification for the lack of differences in creative thinking among female teachers, which is that all members of the study sample were from one region, the Eastern Region that has a very similar geographical nature and societal and cultural composition. Accordingly, it is possible that the lack of differences in this spectrum of variables will also affect the experience variable. This result agreed with the study of Al-Shammari (2023) and the study of Al-Khuwaiter, Al-Mahous and Al-Ghatheer (2023) in that there are no differences in creative thinking between male and female teachers due to the variable of experience.

Results of the third hypothesis, which states: "There are differences in creative thinking skills among female teachers in Al-Ahsa city due to the variable of specialization." To find out whether there are statistically significant differences in creative thinking skills among the female teachers in Al-Ahsa city due to the variable of specialization, an Independent Sample T-Test was used, as shown in Table 3.

**Table 3.** T-test results for two independent samples.

Variable	Specialization	No.	Arithmetic Average	Standard deviation	Value (T)	Degree of freedom	Significance Level	Conclusion
Creative Thinking	Literary	248	48.25	16.59	545	338	586	There are no differences
	Scientific	92	47.054	21.27				

Table 3 showed the result of the statistical treatment of differences in the creative thinking of female teachers in the city of Al-Ahsa according to the specialization variable. The arithmetic mean was (48.25) for a literary specialization and (47.05) for a scientific specialization, the standard deviation was (16.59) for a literary specialization and (21.27) for a scientific specialization. The result of the calculated (T) value was (0.545) and the probability value was (0.586), making the conclusion that there are no statistically significant differences in the creative thinking of female teachers in Al-Ahsa schools according to the specialization variable, which means that there are no differences relative to the type of specialization.

It can be noted about the specialization variable for teachers that most of the educational curricula appear to be common and represent the rules upon which the basics of preparing teachers or all educators are based. For example, the researchers find that all graduates of colleges and educational institutes must study common courses such as educational evaluation, educational research skills, English language skills, educational and computer techniques. It is known that this reduces the differences between teachers, given that education and qualification are close and the discrepancy is in purely specialization courses. Perhaps the nature of teachers' work in essence aims at one thing, which is reflected in the convergence in performance despite the difference in specialization. The study of Al-Haddabi et al. (2021) and the study of Hamdan (2017) agreed on the weak correlation of the specialization variable with the creative thinking of female teachers.

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