IJHER International Journal of Humanities and Educational Research
ISSN: 2757-5403
Volume 4, Issue 3, June 2022

Received: 02/04/2022 **Accepted: 17/04/2022** **Published: 01/06/2022**

THE ATTITUDES OF PRIMARY SCHOOLS' TEACHERS TOWARDS CREATIVE THINKING SKILLS IN CCOMPARISON TO THEIR EDUCATIONAL PRACTICE

Sherine HASHAIKEH[1]

Researcher, An-Najah National University, Palestine

Ayah AMRO[2]

Researcher, An-Najah National University, Palestine

Sahar SHWEIKI[3]

Researcher, An-Najah National University, Palestine

Abstract

This study aims at describing the attitudes of primary schools' teachers towards creative thinking skills in comparison to their educational practice. To achieve this aim, the researchers conducted a qualitative methodology by applying observations, and semi-structured interviews. The data obtained was analyzed using the grounded theory and the 4Ps theory. The results showed one main theme that teachers have tried to provoke thinking in many ways in addition to 5 sub themes; using different strategies in teaching, building good relationships, using different types of reinforcement, increasing motivation among students, and taking into account the individual differences between students. The observations revealed that teachers have applied various strategies to stimulate the students' thinking and motivate them to answer and find various responses considering their abilities and individual differences, by using different teaching strategies such as brainstorming, gamification, and group working. Moreover, classroom observations have shown a positive high correlation between teachers' attitudes and the practice of creative thinking in class. Therefore, the researchers recommend stimulating creative thinking among students in various possible ways, including diversifying the use of teaching strategies appropriate to the educational environment, taking into account the individual differences between students and using the appropriate reinforcement for students in terms of quantity and quality.

Key words: Creative Thinking, Primary Schools, Teaching Strategies.

http://dx.doi.org/10.47832/2757-5403.14.23

[1] sherinehashaykeh@gmail.com, https://orcid.org/0000-0002-9448-9796.

[2] aiaamro1990@gmail.com, https://orcid.org/0000-0002-3918-894X.

[3] sahar.shweiki@stu.najah.edu, https://orcid.org/0000-0002-9350-9660

Introduction

Academics and specialists paid a lot of attention to creative thinking. However, they did not afford one specific definition for creative thinking; nevertheless, Gotoh (2004) expressed the idea of differences between student's creative thinking because it relates to the different abilities among individuals. Besides, it contains many skills, which can be achieved and improved by training. Thus, it is reasonable to assume that people are creative, but they vary in the degree and field of creativity.

Creative thinking skills is one of the skills that needs students' training to achieve the objectives of education in the 21st century (Moon, 2008). Rapid changes taking place in the world today coincide with the definition of creativity (Young, 1985). Creative thinking is known as the ability to bring new ideas (Boden, 2001). Abraham (2016) stated that creative thinking is a form of expressing oneself in a unique way.

It becomes evident that creative thinking is not a single skill, but involves many dimensions such as being sensitive to problems, fluency, flexibility, originality, elaboration, and problem solving (Gue. et. al, 2019).

Craft (2007) mentioned that policy makers started to recognize the importance of creative thinking as an investment to their country's future, which ultimately depends in the first place on the teachers' efforts. Thus, teachers' conceptions and knowledge of creativity are of great importance to researchers and policy makers and should be taken into account in developing students' creativity.

Muneyoshi (2004) studied how teachers used creative problem solving in the classroom. According to many results, the use of creative problem solving in the classroom raised their motivation and self-confidence, in addition to positive attitudes towards learning and problem solving, helped students become more enthusiastic and active in learning. She stated that students, who cooperated more, have succeeded to plan their time better. As a result, developing students' creative thinking plays an important role in their academic success (Kandemir and Gür, 2009)

Teachers examine strategies that fit most smoothly with the content and the developmental zone of their students. Although many techniques, such as brainstorming, can be used at almost any level, others, such as the use of metaphors, are best for students with more highly developed abstract thinking abilities. It is the teacher's responsibility to determine the most suitable ideas for his or her students, and how to adapt them to provide the best opportunities for transfer (Eragamreddy, 2013).

Horng and colleagues (2005) argued that teachers should serve more as facilitators, learning partners, inspirers or navigators than as lecturers. Furthermore, they should apply a variety of teaching methods and aids such as technology.

The significance of the study

The importance of the current study stems from shedding light on the attitudes of the primary school teachers in the Palestinian context. Thus, presents the degree of relevance to their educational practices. As the topic of creativity and creative thinking has become one of the most important topics at the global level, scholars paid a lot of attention to improving creative thinking beginning with the classroom environment. Therefore, this study will be a reflection of the educational circumstances in the field creativity at every school level and an introduction to becoming more familiar with creative thinking by analyzing the results and interpreting them in depth based on educational literature and by benefiting from the practical experience of the researchers in the field of educational work.

Theoretical Framework

Research has indicated that creativity in the classroom is often underestimated (Freund & Holling, 2008). Some believe it is more suitable for primary school children than for older students. Indeed, there seems to be an agreement that creativity is more applicable to primary school children (Smears, Cronin, & Walsh, 2011).

Despite the importance of fostering creativity in elementary school settings, the literature review indicates that little attention has been paid to teachers' conceptions regarding creativity (Diakidoy & Phtiaka, 2001). In his study, Shriki (2008) said that teachers create an environment of open-ended activities and non-routine problems that let students apply imaginative ideas and find novel methods or solutions. Moreover, teachers believe that students' cooperation with classmates of similar interests fosters creativity (Fleith, 2000). Student' motivation is an essential element for quality education; they begin to work on tasks immediately, they ask questions and volunteer answers, and they appear to be happy and excited (Palmer, 2007).

There is rich variation of theories about creative thinking due to the richness in the idea and the various definitions of creativity itself and the non-monolithic context utilized in. Accordingly, interpretations and conclusions differ among researchers (Kaufman & Beghetto, 2009).

Since the purpose of the current study was to investigate the teachers' attitudes and practice toward creative thinking in their class, the researchers chose to apply the comprehensive approach of the 4Ps theory of creativity by Rhodes (1961) in interpreting the results of this study. The 4Ps are Press, Person, Process, and Product.

The first *"p"* is "**PRESS**" resembles the external influencer in the learning environment including the culture, the teacher, settings, resources and practices. It also includes all interventions might occur in the learning context. However, "press" can be either enhancing or prohibiting; we cannot be sure that every external intervention is guaranteed to be positive one. Since the teacher is sensitive to the needs and feelings of his students, a unique, qualified, and proficient teacher is a prerequisite to enhancing the students' creative thinking (Gu, et al., 2019).

The second *"P"* in the 4Ps theory of creativity is **"PERSON"**; that refers to the personal characteristics of the individuals who are the center of any creative activity, despite the fact that it is difficult and sometimes elusive to measure the "Person" creativity since it relates more to the internal processes in the human mind, such as solving problems. However, press-person interaction must be inspiring, motivating and well organized and controlled in order to achieve the intended goals (Oleynick, Thrash, LeFew, Moldovan, & Kieffaber, 2014).

The third "P" is **PROCESS:** The Process refers to the procedure used by the Person to develop the Product. Process refers to the thought process rather than the methodology. It is the way the person thinks when s/he is attempting to solve a problem or create a new solution.

The fourth "p' is **PRODUCT:** Product is built by the Person and is the result of the creative Process. It is the innovation. Product is probably the least studied factor in the field of creativity. They are generally looked at as the outcome of the Process and the Person. There is also a debate on the exact definition of the creative product. Current consensus dictates that the Product has to be both novel and useful.

Methodology

The purpose of this study is to examine the attitudes of primary school teachers towards creative thinking, and compare it with their educational practice. The researchers applied the qualitative methodology by applying observations, and interviews as shown below:

Data collection tools

The data collection tools in the study were semi-structured interviews and observations. The first data-collection tool was interviews. The questions in the interviews were prepared after the discussion by the researchers and they used their experience in the educational field to prepare them. Finally, their supervisor modified some questions to suit the objectives of the study; the recorded interviews lasted between 20-35 minutes. The second data collection tool was the observations using videotaping, each observation lasted for 40 minutes, then observations and interviews were transcribed and analyzed according to grounded theory coding.

The Analysis of the Data

The data obtained were analyzed using the grounded theory and the 4Ps theory. The researchers chose to apply the grounded theory to interpret the data collected through interviews and observations, since it is appropriate to answer the main questions of the study. Therefore, after coding, clusters of items of data were identified and then the pattern of each cluster was identified to facilitate identifying themes in the data.

Each main theme then had two or three sub-themes, the researchers agreed on the final themes which were derived through creating relations between cause and effect such as the teachers' intention to enhance their students' critical thinking accompanied with the contextual conditions presented by preparing suitable activities, equipment and tools and finally the external conditions such as reinforcing and motivating students to accomplish their mission. Accordingly, the researchers related cause with result, these causes and results need to be explained according to the causal way related to the grounded theory that is apparently the most suitable one to interpret this kind of study.

For example, the teacher tried to enhance their participation through previously preparing the class environment by adding needed tools and materials to be used by the students. As a result, she could stimulate their thinking toward applying various ways to solve the questions, which in turn increased their motivation to try more ways.

Since the researchers work in the field of education, they could interpret the teachers' actions and reactions during the lesson trying to be objective as far as possible during the time of collecting, analyzing, and interpreting data through coding and theme formation, for example, the researchers noticed that students were reluctant and a afraid to participate at the beginning. By time and with the suitable interference, these negative feelings decreased and students began to participate and generate new solutions motivated by their teachers. Hence, the researchers considered this issue in their analysis.

Trustworthiness

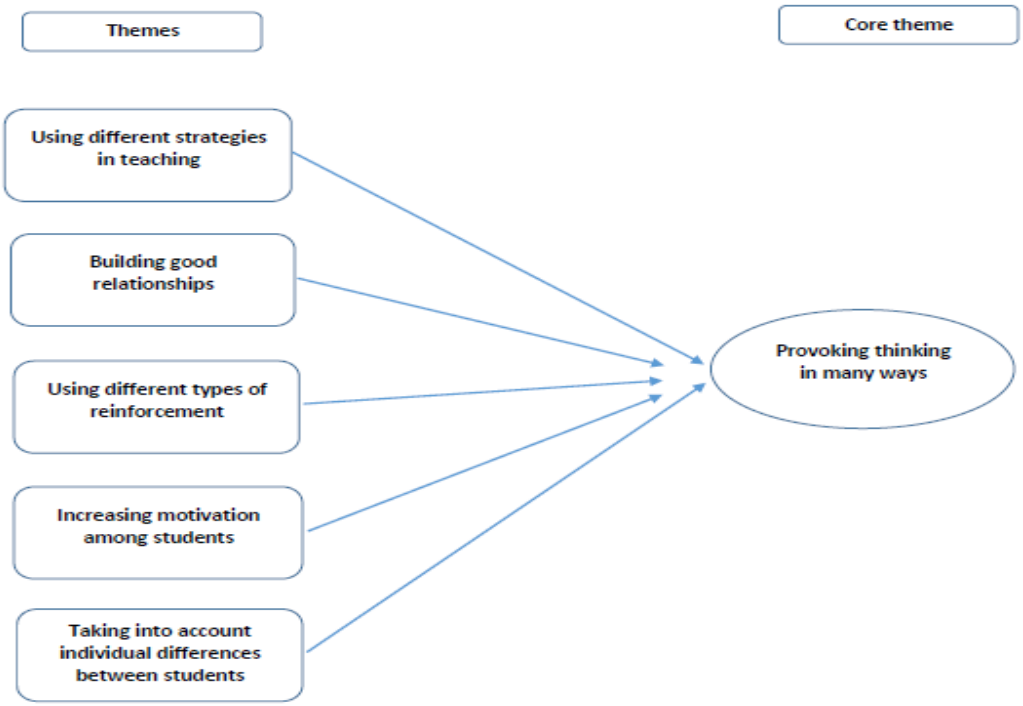
The researchers discussed the themes and sub-themes to determine the final version of the themes in order to confirm **credibility**; the researchers became to notice that the codes were re-occurring more and more while there were no more new codes, which meant that the data collected were sufficient enough and there is no need to more interviews or observations Moreover, each researcher worked alone in collecting the data either in the observations or in interviews while the other two purposefully did not know about the others' data. Each of them transcribed the data collected and then made the first edition of codes then distributed the data among the three of them. The other two made their effort to conclude the codes for the data collected by her colleagues and then discussed the similarities and differences between their ideas to confirm **dependability.** The outcomes were similar to a great degree, thus, they did not have much effort to agree on the final codes and themes which will be explained with the suitable evidence from interviews and

observations as in the vignettes approach that suite the criteria for our study to assure **conformability**. Accordingly, the researchers clamed **transferability** of the current study, because they believed it realized the whole four conditions of a trustworthy study.

The results

As a result of applying grounded theory analysis, which was seen as the most appropriate method for the current study and the theory of the 4 PS, the main emerging theme was "Provoking thinking in many ways". Whereas, The sub-themes were formed as 5 sub-themes: using different strategies in teaching, building good relationships, using different types of reinforcement, increasing motivation among students, and taking into account the individual differences between students. The researchers started with the main theme, then the sub-themes according to the Gioia approach and also the vignettes approach as follows:

- Firstly, the five sub-themes that lead to the main theme can be shown in the following figure according to the Gioia approach:



their attitudes and practices aimed to stimulate creative thinking by asking the students to bring new ideas, taking into account their abilities. As well as Boden (2001) showed that creative thinking is known as the ability to bring new surprising and valuable ideas in many ways and applying several tools. **The First "P" Press** which is the external influencer in the learning environment according (Gu, et al., 2019), is clearly evident in this theme.

1.1 The teachers emphasized applying thinking among students.

[*I want you to think differently, can you give me another answer.*]

(Mathematic classroom observation).

This strategy can help students to think in many ways and giving many solutions.

1.2 The teachers enhance the students' thinking skills of different types, including critical thinking.

[*What do you think? Is this the right answer*?] (English classroom observation).

The teachers gave the students the opportunity to judge the validity of the answers and distinguish the wrong and right ones based on what has been learned, which gave the students the opportunity to think critically. Moreover, encouraged the students to try, to determine their learning by themselves.

1.3 The teacher tried to attract the students constantly to activate them in the class when they felt bored, they asked them to clap and sing.

[*I asked my students to sing with me when I feel that they are bored and tired].* (Interview with an Arabic teacher).

The teacher is sensitive to the needs and feelings of students.

1.4. The teachers reinforced the skill of fluency in creative thinking among students when they held competitions among students through answering many questions.

[I conduct competitions between my students to solve different mathematical issues driven from previous information, and I encourage students from different levels to participate. (Interview with a Mathematics teacher).

As the fluency and problem solving are very important dimensions in creative thinking, the teacher motivates students to solve problems correctly and quickly using what has been learned.

1.5. The teachers motivate students to think and solve their problems individually when they asked everyone to answer individually and write their answers.

[*From my point of view, developing the autonomy in thinking occurs by training the students in self-reliance and answering individually before discussing the right answer with the rest of the class*].

(Interview with an English teacher)

The students achieve autonomy through the individual work, as Muneyoshi (2004) explained that the use of creative problem solving in the classroom raised the motivation and self-confidence of students.

1.6. The teachers indicated that the educational system and the officials care in creativity are the most important factors affecting the development of creative thinking.

[*Creative thinking skills are necessary for creativity in the 21st century. Therefore, students should acquire higher thinking skills. Thus, the most important factor affecting creativity is the educational system.*] (Interview with an Arabic teacher).

The teachers believed that the policy makers should show more attention to the creative thinking, this result correspond to Craft (2007) who showed that the policy makers globally have started to recognize the importance of creative thinking as an investment in their country's future.

2. Using different strategies in teaching and linking previous knowledge to the subsequent.

2.1. Teachers used a variety of teaching strategies such as brainstorming, teamwork, and "the strategy of little teacher". These strategies improve the third *"p"* of the 4ps theory, which is **"Process"** that refers to the cognitive process; when individuals try to solve creative problems, they perform certain cognitive operations in order to generate many possible solutions.

[I would like you to suggest a variety of methods for subtraction with or without using classroom-teaching aids]. (Mathematics teacher, from the observation).

These strategies help to stimulate creative thinking, as Eragamreddy (2013) indicated that the strategies must be appropriate to the content and level of students in order to develop their abilities of thinking. Moreover, Al-khatib (2012) recommended the use of brainstorming strategy in universities as well as conducting more studies regarding its effect by using other samples in different environments.

[I always prefer to use the strategy of the small teacher with my students. The majority of students like to play the role of the small teacher, asking a set of questions of understanding, and judging the correctness of the answers with my assistance]. (Interview with an Arabic teacher).

The students play the role of the little teacher, thus they could be more confident and responsible.

2.2. The teachers were able to build new knowledge among students based on the previous knowledge.

[Let's review together the components of subtraction, and let's remember subtraction within 18 before moving to subtraction within 99].

(Mathematics teacher, from observation).

The teachers managed to recall their previous knowledge and skills by asking questions about the previous lessons and experiences in order to build the new knowledge.

3. Building good teacher-student (T-S) and student-student (S-S) relationships.

3.1. The teachers encouraged interaction between them and their students. At the same time, they encouraged collaboration among students by working in groups, this relates to the third *"p"* of the 4ps theory while judging and criticizing the answers.

[*I give my students more roles inside the classroom, they do not only listen, but they participate in answering questions, working in groups, giving examples, and judging the correctness of the information].* (Interview with an English teacher).

The teachers allowed the students to express their opinions and to work together, and this increases students' self-confidence and confidence towards their teachers, as well as Fleith (2000) showed that students' cooperation with classmates of similar interests fosters creativity.

3.2. The teachers give students the opportunity to participate in decision-making.

[During the school- reading project, I asked my students to choose stories that they prefer to read then to summarize it in the library class]. (Interview with an Arabic teacher).

The teachers help the students to be independent when they choice what they prefer to read.

3.3. The teachers respect their students. They take care of their feelings.

[Ahmad why you are sad today? Please participate with us and answer the question on the blackboard]. (English teacher, from observation).

The teachers not only take care of the learning of their students, but they make attention to their feelings.

4. Using different types of reinforcement

4.1. The teachers use many methods of reinforcement with their students, as the students of the primary school prefer reinforcement, this relates to the first "p" of the 4ps theory.

[I use to reward my students by using verbal reinforcement and stickers. This increases competition among them and drives them to participate, answer and think in different ways]. (Interview with *a Mathematics teacher).*

[Now I want you to answer the questions in the worksheet individually, who finishes quickly and correctly, will win the crown of excellence in mathematics]. (Mathematics teacher, from observation*).*

[I motivate my students of all levels to participate in answering and thinking, I reward them by using words like Excellent, well done, hero, when they succeed. This reinforces the students of all levels to think, and this leads to strengthening thinking]. (Interview with an Arabic teacher)

The teachers try to increase their participation by using reinforcement in the activities of the classroom. This was shown by (Charles and Senter, 2004), they showed that the teachers often use reinforcements as a form of discipline in the classroom, and these reinforcements allow students to learn new ideas, skills, and rules. This emphasizes the role of "press" "the teacher" influence in improving creative learning

5. Increasing motivation among students

5.1. The teachers are interested in arranging the classroom, and making it suitable to their students, this relate to the first *"p"* of the 4ps theory.

[Before I start my class I make sure of the lighting and ventilation in the classroom, I arrange the blackboard, and I check for the necessary tools of my class]. (Interview with an Arabic teacher).

The teachers provide the security and safety to create a good educational climate. This corresponds to what Palmer (2007) idea about the necessity of motivation for quality education.

6. Taking into account individual differences between students

6.1. The teachers take into account students 'levels, abilities, and personalities, this relates to the second *"p"* of the 4ps theory.

*[I want you to divide yourselves into 4 groups in order to answer the different working papers that I will give you now]. (*Mathematics teacher, from observation).

[Since the beginning of the semester I try to identify my students personalities, so I can easily deal with them according to their personalities, for example, my style of dealing with the shy students is different from active or naughty student].(Interview with an Arabic teacher).

The teachers use a variety of teaching strategies through using the homogeneous and heterogeneous groups based on students' levels. In addition to the diversity of questions and tasks according to the abilities of students.

Discussion

This study provides information about the attitudes of primary school teachers towards creative thinking skills in comparison to their educational practice, the results of this study showed the principle themes, which is divided in main theme and sub-themes. The main them was "Provoking thinking in many ways". Whereas, The sub-themes were formed as 5 sub-themes: using different strategies in teaching, building good relationships, using different types of reinforcement, increasing motivation among students, and taking into account the individual differences between students.

Through these themes, the teachers have used different methods and strategies to enforce the students thinking taking into consideration the individual differences between the students which in turn has led to provoke the students' motivation.

As a result of promoting the students' thinking, they had various solutions to suit different educational situations. Moreover, the students tried to solve the questions correctly on time, some of them came up with unexpected solutions which means that they could innovate something new, presenting some of the characteristics of creative thinking such as originality, flexibility, fluency, and problem solving which fortunately led to the final **"p"; "PRODUCT"** that refers to the creative outcome.

Conclusion

According to the analysis of the collected data, the researchers found that the teachers' attitudes toward applying creative thinking were positive which was clear in the core and sub themes presented in the analysis. Teachers have applied various strategies to stimulate the students' thinking and motivate them to answer and find various responses considering their abilities and individual differences, using different teaching strategies such as brainstorming, gamification, and group working to provoke the students thinking, Nurlela (2015) explains that the quality of the teacher is a prerequisite tool to foster creative thinking among students putting the individual differences into consideration. Moreover, building good relationships with students has also helped in stimulating them and empowering their motivation to participate and has improved their thinking in different ways.

The researchers had conducted numerous observations in the classes of the previously interviewed teachers. Accordingly, the instructional practices were related to teachers' attitudes toward applying creative thinking. Moreover, classroom observations have shown a positive high correlation between teachers' attitudes and the practice of creative thinking in class. Therefore, the researchers recommend stimulating creative thinking among students in various possible ways, including diversifying the use of teaching strategies appropriate to the educational environment , taking into account the individual differences between students and using the appropriate reinforcement for students in terms of quantity and quality and taking into account the students' needs and abilities.

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