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Teachers' Views on Creativity and Creative Students

Opiniones de los Profesores Sobre Creatividad y Estudiantes Creativos

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Abstract

The purpose of this study is to determine the opinions of teachers' regarding creativity and creative students. The data was collected through interview form prepared by researchers for this purpose. It was aimed to determine the teachers' views on creativity, creative student characteristics, activities that can be done in class to improve creativity, use of material in creativity and opinions about creative classroom environment. Qualitative research method was utilized using a semi-structured interview technique. Study group of the research consisted of 17 teachers working in both in the North Cyprus and in different regions of Turkey. Seven of them are classroom teachers, four are mathematics, three are science, two are electrical-electronics teachers and one of them is a biology teacher. The data obtained from the study were analysed through content analysis. As a result; teachers' creativity and creative student definitions focus on the concepts of 'difference' and 'originality' and there are many different methods that can be used to develop creativity in the classroom. It is important that the classroom environment that develops creativity is an environment where the student feels free and comfortable and material use is considered to be important

Resumen

El propósito de este estudio es determinar las opiniones de los maestros sobre la creatividad y los estudiantes creativos. Los datos fueron recolectados a través de un formulario de entrevista preparado por los investigadores para este propósito. El objetivo fue determinar los puntos de vista de los maestros sobre la creatividad, las características creativas de los estudiantes, las actividades que se pueden realizar en clase para mejorar la creatividad, el uso del material en la creatividad y las opiniones sobre el entorno creativo en el aula. El método de investigación cualitativa se utilizó mediante una técnica de entrevista semiestructurada. El grupo de estudio de la investigación estuvo compuesto por 17 profesores que trabajaban tanto en el norte de Chipre como en diferentes regiones de Turquía. Siete de ellos son profesores de aula, cuatro son matemáticas, tres son ciencias, dos son profesores de electrónica y uno de ellos es un profesor de biología. Los datos obtenidos del estudio fueron analizados mediante análisis de contenido. Como resultado; La creatividad de los profesores y las definiciones creativas de los estudiantes se centran en los conceptos de "*diferencia*" y "*originalidad*", y existen muchos métodos diferentes que se pueden utilizar para desarrollar la creatividad en el aula. Es importante que el ambiente en el aula que desarrolla la creatividad sea un entorno donde el estudiante se sienta libre y cómodo y se considere importante el uso del material

Keywords

Creativity; Creative students; Teacher views

Palabras clave

Creatividad; Alumnos creativos; Puntos de vista del profesor

1. Introduction

Creativity is one of the most important events that bring human history to the present day. It has been a source of many innovations in everyday life since the early ages, with its Latin origin "create" which means "to create, to breed". Important events, such as fire, wheel inventions, and writing, were nourished by creativity as they emerged from need. Especially in Europe during the Renaissance period, art, sculpture, painting and music are associated with art, but later on, it has become indispensable for science and technique. When we look at today, creativity is one of the most important cognitive processes that different groups of people need for different reasons at every stage of daily life. Fromm's (1959) definition of creativity is a form of curiosity, a capacity to cope with mismatch and tension, an individual's self - renewal, a consciousness of experience, and to react to it with its whole self. Creativity in this way focuses on features and processes that are thought to result in creative productivity, rather than product quality. Torrance (1965, 1977) defines creative gaps as a way to sense gaps, disturbing or incomplete elements, to develop ideas about them, to make assumptions, to test them, to compare and evaluate the results, and to retest. (Kale, 1994). San, on the other hand, defines creativity as the ability to establish relationships between previously unrelated associations so that they can reveal new livings, experiences, new ideas and new products in a new scheme of thinking. (Zongur, 1996). Vance & Deacon (1995) argue that "creativity is the production of the new one and the reorganization of the old one" (Bentley, 1999). According to Rhodes (1961) I, creativity has been shaped by the combination of press, person, process, product, which he calls "four p of creativity". Creativity also appear in the in-classroom dialogical relation among the different educational stakeholders García Esteban, S. & García Laborda, 2016; 2018).

Hermann reveals his preconceptions about the concept of creativity as follows:

- Creativity is an innate one. Creativity is human specific. Every human being has the chance to be creative.
- It is not necessary to be a genius to be creative.
- Although creativity is blurred for a variety of reasons, it can be regenerated, motivated and improved with life experiences and special programs.

Many different definitions can be made about creativity. It is also extremely ridiculous to limit a concept like creativity to one definition. In general, when we look at the definitions we have in common, we see "doing new and different things, introducing a new idea or product" in the name of creativity. At the same time, the definitions tell us that creativity is a very valuable scientific process. Creativity is an ability with different characteristics in every age group. There are many individual features that positively affect creativity. However, when we try to explain creativity with individual characteristics, we are mistaken only by reducing it to the individual's cognitive skills. On the contrary, creativity must be explored in the whole life of the individual. Creativity lies in the individual's perceptions, personality, social relations, work habits, thinking and perception of the world. Some creativity researchers have identified the characteristics of creative individuals in scientific research on creativity and in creativity theories (Tardif & Sternberg, 1988). They classified the characteristics of the creative individual into 20 categories.

These are; originality, high intelligence, awareness of creativity, logical thinking, extraordinary thinking, interrogating, knowledge and experience, not hesitating to make independent decisions, taking risks, being energetic, curios, being funny, interest towards the unknown, imaginative, interested in arts, open minded, preferring to be alone, strong insight, emotional and high ethical values. The most important features of creative people are their original, extraordinary, logical and critical thinking skills and their imagination (Sak, 2004). Creative people show excitement and interest when they encounter an innovation. Less creative people may be suspicious or even hostile in the same situation. When a probing new solution was proposed in the research that Martindale had done, creative students were interested in it, presented other suggestions and ignored the problems in the solution.

Less creative students were looking for solutions rather than focusing on the potential of solutions.

It is necessary to look at the creativity of the students and the characteristics of the creative students by moving on from this sample.

The inevitable consequence when we compare child and adulthood creativity is that the creativity in the child is very different from the creativity in adulthood. The developmental differences of growth and maturity along with the environment make it difficult to assess childhood creativity based on the criteria of adult creativity. We can assess adulthood creativity with social impact criteria, but not with the same criterion nor with measuring children's creativity levels, nor in identifying developmental differences in creativity. The most common features of creativity in creative children emerging from scientific research are compiled below. There are, of course, many features that distinguish creative children from other children. However, only the most common and obvious ones are addressed here.

1. They have an ability to connect or associate ideas that are unrelated.
2. High ability to rearrange and merge ideas to create new ideas or products.
3. The idea repertoires are very rich in problem solving. They produce many ideas to solve the problem.
4. They have intelligence jokes. They notice jokes that others cannot see.
5. Their imagination surpasses the anticipated limits at the time they create confusion. Their talent skills are far ahead.
6. There are trends and concerns to change, correct or adapt existing ideas or products.
7. They may have unusual, futuristic, or bizarre ideas about a topic or for solving a problem. Producing original ideas is a priority for them.
8. In order to complete their extra ordinary work they show focus, responsibility and ambition at a level of obsession.
9. Due to the curiosity of discovering and knowing, they start asking a lot of questions at an early age and this behavior can continue until adolescence.
10. While there is no interest in most issues, the interest in a few areas is so intense that it can turn into a passion.

All children are born with creativity, but the ability to be developed requires an environment that supports creativity. The children who spend long hours of school days with their teachers from the young age are undoubtedly influenced by their teachers in terms of creativity. In this sense, the teacher has a difficult duty. To uncover creative children, to identify them with features that are different from other children, and to nurture the creativity of all children... First of all, the teacher must be a very good observer for this. They should also analyse the problem solutions, games and social relations of the children and should observe the children during the classes or during the breaks. The teacher should serve as a guide to guide the students rather than limiting them. Frequently open-ended questions should be asked to the class to talk, analyse and give examples. By creating problem situations, children should be encouraged to seek different solutions. The teacher must constantly use different methods and techniques and should be able to make creative drama activities in the class. Instead of just being stuck in the classroom environment a teacher should open the perceptions of children to be able to learn in the garden, in the library, in the laboratory, in the museums or in art galleries. They should know the innovations made in science, art and technology, and share them with students in a way they can understand. Artists and scientists who have shed light with their works should give their courage in their ideas, projects, and experiments. A child who does not hesitate to share his ideas with his/her teachers and friends whom she/he trusts in different environments will undoubtedly be a creative individual who is highly confident, not afraid to think and not afraid to produce. In this sense, of course, the teacher must have a high intellectual accumulation. Creative attitudes are not limited to what is been done in class but also to online search and creations – such as webquests- (Costa & Loureiro, 2016; Garcia Laborda, 2009). Creative teacher is a problem-solving, adaptive person who can meet the needs of the students from different angles by bringing materials and ideas to the class. It is the individual who is able to constantly create different activities for his/her students and encourage the students to be creative, allowing the child to show that he/she can be creative. The creative teacher makes the boring classroom atmosphere more appealing by using the tools and other materials in different

shapes to make the lesson enjoyable. This allows students to improve their creativity and increase their learning desire. In addition to this, the development of the child's creativity needs to be regulated in such a way that the teacher's creativity or creative thinking as well as the educational programs allow the students to improve their creativity (Emir & Bahar, 2003).

Creativity is a cognitive ability that interests the educational, artistic and business world for different reasons. Although creative individuals have always been one step ahead of ordinary people for many years, we cannot say this for every period of the society. Developing this desirable feature also starts with the awareness of creativity in the early ages. Children who meet with formal education at a very young age spend long hours at school with their teachers. After family, the teacher is the most important factor that shapes the child's personality. The sooner teachers notice the precious stones in their class, the sooner they start to shape. Teachers have no difficulty noticing the academic success students however, they may not immediately notice children who have creativity, analytical thinking, etc. This research tells us how teachers evaluate creativity. However, it also includes information on how teachers can understand creative students, what they can do for them, how effective the used materials are, and how they can make the classroom more creative. In the light of all these, teachers will be able to see the relationships of teachers in different fields with creativity and creative children in their classrooms, laboratories or workshops and they will be able to develop themselves on this field. The findings of this research will contribute to the literature in this sense. So, the aim of the study is to determine teachers' views on the concept of creativity and the creative students in their class?

To reach this aim, the study seeks to answer following questions.

- 1) How are teachers' opinions about creativity?
- 2) How are teachers' opinions about creative students?
- 3) What is the opinion of the teachers about the features that distinguish creative students from other students
- 4) What do teachers do to improve the creativity of students in their classes?
- 5) How are teachers' views on the effect of the course materials used on creativity?
- 6) How are the views of the teachers about the classroom environment that improved the creativity of the students?

1.1. Methodology

Qualitative research method was utilized using a semi-structured interview technique. Qualitative research is a type of scientific research. In general terms, scientific research consists of an investigation that seeks answers to a question, systematically uses a predefined set of procedures to answer the question, collects evidence, produces findings that were not determined in advance, and applicable beyond the immediate boundaries of the study.

1.1.1. Study group

For the experimental design, the model by Yıldırım & Şimşek (2006) was mostly followed. The "*purposeful sampling*" method was used to determine the teachers involved in this study. Purposive sampling allows for in-depth study of situations that are thought to have rich knowledge. One of the purposeful sampling methods used in the research was "*sampling of easily accessible situations*". This method of sampling gives speed and practicality to research; because in this method the researcher chooses a situation that is close and easy to access. most different branches. Within the scope of this study, 17 teachers who constituted the study group were included in the first part of the semi-structured interview form, questions were asked about the gender of the teachers, year of study, level of education and the field they graduated from. Thus, preliminary information was obtained about the teachers who participated in the research and it was tried to increase the reliability level of the research. As the knowledge and experience of the teachers are important in this research and it is thought that to express them sincerely will contribute to the scientific ness of the research. The study group of this study is composed of 17 teachers. 7 of these are classroom teachers, 4 are mathematics, 3 science, 2

electrical-electronics and 1 biology. Teachers are also classified as verbal and numerical tutors within themselves. This classification is one of the variables of the research. According to this, 7 of the participants enter the verbal courses and 10 of them enter the numerical courses. 17 teachers participating in the research consisting of 3 males and 14 females ages range between 25 and 50. 10 of the teachers are in the undergraduate level whereas 4 of them are at master's level. Teachers' working years range from 2 to 25 years. When we look at years of experience, 3 teachers in the study year 1-5 years, the study period of 7 teachers is 6-10 years, 1 teacher's study year between 11-15 and 6 years of work are 16 years and over. These teachers work at primary, secondary and high school levels, 6 are private schools and 11 are state school teachers. In the study, the codes of the teachers were given as T1 ... T17.

1.1.2. Data collection tool

In this study, the data were obtained by the semi-structured interview form prepared by the researcher. In this technique, the researcher prepares an interview form with questions that she plans to ask in advance. Depending on the flow of the interview, the researcher can influence the flow of the interview with side or bottom questions and can help the person to open and give details about their answers. After the semi-structured interview form was formed, it was presented to two training teachers and two class teachers and their ideas were taken. Some changes were made to the scale questions after the views received. Before piloting, the scale was tested on a classroom teacher and a foreign language teacher and the clarity and comprehensibility of the questions were examined. The pilot application gives the researcher an idea of how well the interview form is prepared and whether the statements used are appropriate for the interview. The first part of the data collection tool includes demographic information such as age, gender, education level, seniority and branch of the teachers. The second part consists of six open ended questions. In the first part of the question, teachers' perceptions about the concept of "*creativity*" were seek. The second and third questions relate to creative students, while the fourth question concerns activities that teachers can do to improve creativity. The fifth question examines the course materials used and the sixth question suggests the creative classroom environment.

1.1.3. Data analysis

Since the questions directed to the participant of the survey were open ended questions, they had the necessary flexibility in terms of time. Attempts have been made to reveal the common and different aspects of the participants' responses to each item. Descriptive analysis within the scope of basic level analysis was used to analyse the qualitative data obtained in the research. In descriptive analysis, the data can be organized according to the theme set out by the research questions as well as the questions or dimensions used in the interview and observation processes. Descriptive analysis consists of 4 steps. These are: "*framework for descriptive analysis, processing of data according to thematic framework, identification of findings, interpretation of findings*". In this study, data were presented considering the questions used in the interview. Messages (codes) have been removed from responses to each question. Later, similar codes were collected under the same group and categories were created. Direct citation has often been given in order to reflect the views of the interviewed individuals in a striking way. Participant names are not used and coded in excerpts. The followings were carried out for validity and reliability.

Validity: The collected data are written in detail and how the results are achieved is explained in a clear and understandable manner. The opinions of interviewed teachers were frequently given through direct citations and the results of the research are explained in this way. This was the way the validity study of the study was made.

Internal Validity: The research findings are consistent and meaningful in themselves. The resulting concepts are likely to form a whole. In addition, the findings are consistent with the conceptual framework established. Data has been benefited from this framework in total; Research questions have been prepared in accordance with this framework. In short, both in

data collection processes and in the analysis and interpretation of data, it is explained in detail how this consistency is provided. The researchers who conducted the study constantly questioned themselves and the research process with a critical eye; and to check whether the findings obtained and the results of these findings reflect the reality.

External Validity: The results of the research are consistent with the conceptual framework of the research question. In the research, there are necessary explanations for the detection of the findings in other investigations. In order for the results of the research to be generalized to similar environments, the researchers informed the reader in detail about all stages of the research. Readers may not be able to generalize directly to their own environment from the results of research; however, they can gain some lessons or experiences that might apply to their environment. If this happens, the generalizability of qualitative research results increases.

Reliability: The researcher refrained from directing the teachers interviewed in this study. In short, the role of the researcher has been to enable teachers to talk about the subject matter of the research and its purpose. In the study, the data obtained by interview and writing were resolved by researchers and categorized by means of messages (codes). In order to demonstrate the reliability of the coding used in the research, common codes evaluated separately by papers, researcher and expert have been reached. The second measure to be taken by researchers on external reliability is the explicit identification of individuals who are data sources in research. Thus, other researchers doing similar research can take these definitions into account when creating a sample. For this reason, the individuals interviewed in this study are described in detail (seniority, place of duty, duty period). The data is stored so that it can be examined by others.

2. Findings

2.1. Perception of creativity

Table 1 shows the perception of "creativity" varies from one person to another. In this study, it was aimed to determine the creativity perceptions that teachers had. For this reason, the first question of the interview form directed to the teachers was, "What comes to your mind when it comes to creativity?" All of the teachers answered this question. The following table shows the answers given by the teachers and the number of teachers who answered this question.

Table 1.
Teachers' Perceptions of Creativity

Teachers' Perceptions	Number of Teachers
Different thoughts, different perspectives	10
Unique products, putting out ideas	5
Producing alternative solutions	4
Dreaming of something that does not exist	3
Uncovering a new meaning	3
Imagination	2
Making inventions that make people happy	1

When we look at the teachers' creativity perceptions, we often see that their interpretations are on the word "difference". Teachers see creativity as a different way of thinking and as different perspectives. Apart from that, producing alternative solutions that are known and unexpected for a problematic situation, revealing new meanings by using their ability to analyse and synthesize their own unique products and ideas in whichever way they are, is also what teachers put in the concept of creativity. It is also in creativity to imagine something new that is not outside them and to translate these dreams into discoveries that will make people happy. The number of teachers on the concept of imagination that is based on creativity is also seen as 5 people. Some teacher opinions about this are as follows:

- " *New, original, different, worth seeing, acceptable productivity.*"
- " *To imagine something that is not creativity, to think differently than others.*"
- " *To present original ideas or works from existing materials or from the information they have learned. Creativity is dreaming.*"

2.2. Creative student perception

Creative student perception needs to be discussed secondly after creativity. In the second and third questions, it was aimed to learn how teachers see creative students and how they can identify them among other students. The answers of the question "*What kind of students are creative students?*" are given in Table 2.

Table 2.
Teachers' views on creative students

Teachers' views	Number of Teachers
Being able to look from different angles	7
Asking questions, inquiring, curious	5
Innovative	3
Producing original ideas	3
Able to adapt learned information to new conditions	3
Wider boundaries	2
More flexible	2
Developed imagination	1
Can see details and the whole	1
Can give examples from daily life	1

When we look at teacher views in Table 2 we see 28 different comments. There are 7 teachers who consider creative students as students who can look at staff from different angles. In addition, 5 teachers said that creative students are asking, questioning, curious and evaluating them as curious, while 3 of the teachers perceive creative students who are open to newness, not afraid of innovation, producing unique ideas and adapting to new conditions. It is also said that creative students are students who have developed imaginative worlds, who can see both the details and the whole, the boundaries are wide and flexible, the lessons can be reconciled with everyday life and the daily life is abundant.

Teachers have also said that creative students are self-confident, well communicative, and outgoing. However, teachers also noted that they did not encounter so many types of pupils in their class. Some opinions are as follows:

- "*These students can think in many ways and demonstrate their creativity difference. Creative children are children whose imagination worlds are developed, who have a high level of interest, who like to try different and new things, have a lot of thoughts in their minds and sometimes have difficulty classifying them.*"
- "*First of all, they are curious and interested. Creative student wonders, researches and inquires. They try to do new things. They are innovative. Sometimes they are out of the ordinary. They are contrarian.*"
- "*I think that they will change according to their experiences. They are outgoing, curious, active, for frant if they are not hindered by their creativity. Besides, they receive a negative feedback in their previous experiences, they may turn into students who are introverted and hesitant to say their thoughts.*"
- "*Today, unfortunately, we do not encounter many creative students. They are generally waiting for things to be presented to them. Unfortunately, we are not able to meet a student in this perspective as we continue to work more and more day by day.*"

After teachers' views on creative students, their views on creative students in their classes were addressed for this, the teachers were directed with the question "*What are the characteristics of*

the creative students in your class that distinguish them from the other students?" Table 3 gives information about that teachers' views are the hallmarks of creative students in the classroom. The number of teachers who agree with this thought are given below;

Table 3.
Key features of creative students

Teachers' Views	Number of Teachers
Looking for alternative solutions	6
Providing different strategies and comments	5
Providing different strategies and comments	5
Asking different questions	3
Self Reliance	2
Like to share thoughts	2
Solution oriented	2
In favour of self-study	2
Careful with details	2
Think beyond the boundaries	2
Sociable and cheerful	2
Not a rote learner	2
Effort to improve oneself	1
In favour of being in the forefront	1

As it is seen in Table 3, the creative student features in the classroom are very diversified. Teachers talk about all positive student characteristics in 35 different answers. In the first place, 6 teachers had the ability to find alternative remedies. He brings different interpretations, applies different strategies, asks different questions and these features are told by 5 teachers. Apart from these characteristics, teachers can distinguish the creative students in their class from the other students through the following characteristics: Liking to share ideas, effort to improve oneself, solution oriented, in favour of self-study, careful with details, self-reliance, think beyond the boundaries, in favour of being in the forefront, being sociable, being cheerful, not being a rote learner. Some teacher opinions given to this question are as follows:

"They are more interested and curious about the course, they try to bring out different projects, they attach importance to detail, they can apply them to their daily life and assignments by blending them together, they are not satisfied with a single answer and they constantly open to learning new information and all these market hem different from other students"

"Thinking about the students in secondary education, confident, aware of his ability, asking more questions and eager to learn, they are separated from other students as students putting effort to improve themselves. In addition, they are students with future plans and dreams in a professional sense"

"These students know how to look at events and issues from different perspectives. At first, they use different solutions. (These roads are so precious that they find and use them without being taught). They are more sensitive. Every word that is said for them, every meaning of the behavior is deep and important. So, they cannot show arbitrary behavior"

2.3. Activities to increase creativity of students

After the teachers' "perceptions of the creative student" were examined, the next question was focused on the activities that teachers carried out in order to improve the creativity of the students in their class. The activities that teachers can do to improve the creativity of the students in the classes are presented in Table 4.

Table 4.
Activities to improve creativity

Teachers' views	Number of teachers
I answer and support every question	6
I force my students to think and give clues	6
I provide alternative perspectives	6
I give extra homework according to the students' interests	4
I relate the subjects to daily life	3
I let them be free with activities	3
I use different techniques in lessons	2
I use materials in lessons	2
I ask them to make additions to previous tasks	2
I can not do anything	2
I encourage creative thinking with developmental games	1
I focus on problem solutions	1
I always let the students ask questions	1

Judging from the views of teachers in the table, it can be seen that the vast majority of teachers are able to do many different exercises in their classes to improve creativity. 13 different categories have been identified for this substance. When we look at the comments and the numbers of the teachers, the situation is determined as follows: 6 teachers stated that they provide alternative perspectives, support and answer all questions, force the students to think and give clues; 4 teachers stated they provide extra homework according to their interests; 3 teachers relate topics with daily life and let them be free in activities; 2 teachers use different techniques in the lessons, use materials in lessons and ask them to make additions to previous tasks and 1 teacher; encourages creative thinking with developmental games, focus on solutions and let the students question what is being thought. 2 of the teachers stated that they will not do anything and that the curriculum of education and training will not be compatible with creativity. Some of the teachers' opinions for some questions are given below;

"I would have encouraged people to experiment new things and rewarded the students in these directions. I would have also encouraged students to ask questions".

"I will allow alternative perspectives for a question. I will share all possible solutions and ask for alternative ones".

"I will not do anything. In addition, education in my opinion is a process that destroys creativity".

"Not to make restrictions on matters in activities, project tasks, models made in class - model work, material selection, dimension, etc. " as far as possible, to approach with tolerance even if the answer given by each student is wrong, answer every question from students (although sometimes it seems very irrelevant), ask the students if they have something they want to add at the end of the course"

2.4. The effects of teaching materials on creativity

In classes, in laboratories, the contribution to creativity of the materials used in the lessons should be questioned. The answer to the question of whether or not the course materials used in the 5th question of the scale contributed to creativity, and how and if it contributed to it, were searched. The following table also includes teacher opinions.

Table 5.
Teaching methods used by lecturers

Teachers' views	Number of teachers
The material has a contribution as it is concrete	6
If the student prepares the material it is helpful	4
Creates a new perspective	4
Does not improve creativity	3
Making internalisation easier	3
Ready materials limit the students	2
Material encourages the students to search	2
Enables analytic thinking	1

As seen in Table 5, 12 of the teachers who fill the form think that materials are developing creativity while 3 of them think that the materials do not improve creativity. 2 of the teachers thought that the ready materials would limit the student but the creation of the material by the student will help the improvement of creativity. There are 4 teachers with the same opinion. 6 of the teachers thought that having concrete materials will contribute to creativity. 4 of the teachers said that the materials will help students gain a different perspective whereas 3 of the teachers stated that it will make internalization easier. Apart from these, 2 teachers said that the material used in the class would encourage the student to research and 1 teacher stated that the material provided will enable analytical thinking. Some teacher responses to this question are as follows:

"I do not think it's enough. I think that the creativity of the students is what they do and cannot do in their daily life and improves activities. I mean, I do not think that only the school environment and the course materials are developing creativity on their own".

"It changes the students' view of the lesson. Students from different perspectives invent new invention, new discovery, new game".

"Materials develop creativity. There is no education and talent without material. I do not think that there should be a lot of material. The required materials should encourage the student to research and the child must make use of these materials to create different materials. More material than necessary does not improve the student, the creativity of the student depends on the materials he/she will make".

"I think that ready-made materials limit students and the teachers. I think that if the teacher and student make the course material together, this work will contribute to creativity".

2.5. Classroom environment for developing creativity

In the last sub-aim of the study. It is emphasized how the classroom environment should be in order to improve creativity and creative student perceptions after the teacher views on the effect of course materials on creativity were obtained. Teachers' views on this issue are presented in Table 6.

Table 6.
Classroom Environment to Develop Creativity

Teachers' View	Number of teachers
The student should have a comfortable environment	8
An environment suitable for sharing should be available	4
Classes should be separated by branches	3
The student should access the material easily	3
The material should address students visually, tactually, audibly	3
It should be a place with a lot of activities	3
It should be a place where different thoughts products are respected	2
It has to be interacting with the nature and technology	2
Teaching cannot be limited in a class	1
It should be a place to play and make experiments	1
It should be big enough for group Works	1

As it is seen in Table 6, a large part of the teachers (8 teachers) suggested that the environment for a creative class should be a place where the student can feel comfortable. 4 teachers suggested that it should be an environment where the students can share with each other and the teachers easily. 3 teachers stated that the classes should be separated by branches so that the students can easily access materials. 2 people said that the class should visually, tactually, audibly appeal to students and another 2 stated that it should be a place with a lot of activities. 2 of the teachers said that it should be interacting with the nature and technology. 1 of the teachers stated that it should be a place where the students can play and do experiments and another person said that it should be a big enough of a place suitable for group work. A teacher with a different opinion says that the child can develop creativity everywhere since education cannot be limited by class.

Some answers to this question are as follows:

“The classroom environment is abstracted from the outside world and is not seen as a place made up of four walls instead it should be a place of nature, technology where each student can freely present ideas, without being afraid of reproach when giving wrong / different answers, sharing ideas with friends and teachers and a place where a student can bring a piece of stone that they found on their way to the school to examine”.

“I think that classroom environments which constantly produce and where students do their own work and the teacher acts as a guide, students are researchers and presenters, they share knowledge, can be creative”.

“Even if it is not a suitable environment for every activity the classroom should at least be a big and meaningful environment for group work to be done. There should not be a group faces looking at the board. Especially in the primary school period”.

3. Conclusions and discussion

One of the first variables examined in this research is teachers' perceptions of creativity. For this reason, they were asked to express their thoughts on "creativity". When we look at the teachers' answers, we see that a large part of the perception of creativity begins with "difference". Thinking of what is different from the others and having a different point of view is seen as the first step of creativity. Of course, this difference is a difference with positive meanings. This difference is a continuation of useful inventions, original ideas and projects. Otherwise it is not always desirable to be different from the others in the class. Teachers often have to deal with different children and it ends up with a suppression of this child. In this process creativity disappears. There is no doubt that creativity is a different way of thinking than others. As a result, it is the process of producing alternative solutions to a problem, imagining something that does not exist and creating it. It is also seen as a component of creativity, synthesizing a large number of knowledge, establishing bonds among them, and making new meanings. Discoveries and behaviours that make people happy and smile are identified with creativity and it is said that the ability to be creative will continue in the future. Of course, creativity begins with imagination before all. Imaginary people, regardless of how old they are, do not give up their imagination and engage in all kinds of creative activities. In short, teachers want to see a product in the field of science, in the field of art, or in everyday life as a result of the creative process. This product is sometimes an idea, sometimes a solution suggestion and sometimes it can be a concrete material. Fromm's curiosity is emphasized as one of the conditions for creativity by teachers. Again, the state of being original which is emphasized by the teachers overlaps with the definitions made by different scientists.

In a study by Fryer and Collings (1991) of how teachers describe creativity, teachers have defined creativity as imagination, originality, and original expressions by individual. In Yildirim's research (2006), teachers described creativity as the most product discovery and as a hereditary feature and the creative individual as the most curious, innovative, and differentiated.

As a result of the research Aslan and Esra (2001) conducted he found that, enduring creativity emerged as a new, original and skill-based product or something that has not yet turned into a product, involving a specific problem-solving process, defines a person's intelligence as a cognitive ability that is used in a unique and productive way.

In the second and third items on the scale, teachers' opinions about creative students and the characteristics that distinguish creative students in their classes from other students were determined. The answers given show how the perception of creativity and creative student perception resemble each other. Teachers view creative students, whether they are in general or in their classrooms, as students who can look at different angles and produce alternative solutions. The features that teachers can initially observe and identify in the classroom environment make it possible for the teacher to have an idea about the creativity of the child. A creative student is described as a student who is asking a lot of questions, producing original ideas, being open to newness, developing imaginative worlds, giving examples of everyday life, and using the information he learns in other situations.

In addition, these students are sociable in terms of personality, cheerful, like to share, like to be on the forefront, loved by their friends, are self-confident students. While students who are out of the mold in some way are the students whose ideas are interpreted as inspiration by others in group activities and they are considered as students who do not face any problems in individual studies. In the research Kerem & Kamaraj (2000) conducted, which included a survey of preschool education teachers 'opinions on the concept of creativity', teachers listed the features of creative children as follows; unconventional, bringing solutions in the same and different directions, who can express themselves verbally and in movements, independent, collaborative, entrepreneurial, leader and successful in artistic activities. Teachers tend to determine the features of creative students as imaginative, self-reliant, students who has goals and can think in an independent and critical way, as divergent thinkers with a lot of hobbies and artistic tendencies.

Not all expressions related with creativity are positive. On the other hand, we see that many individuals with negative characteristics in daily life can be very creative individuals and we can see this by looking at the past to present with especially artists, scientists and athletes. This question is quite different and we see many comments. The vast majority of teachers say that the most important way to improve the creativity of children in their class is to encourage them to think with the hints they give. This is followed by answering questions students ask, encouraging them to ask questions and giving alternative perspectives on the topics. While some of the teachers thought it was right to explore the interests of the students and give them additional assignments and to associate lessons and topics with everyday life, and to free them in classroom activities. Teachers' opinions are that the use of different lecture techniques and material, problem solving, playing creative thinking, developing games are also effective. As a different point of view, some teachers say " *I allow students to question what I tell them in class*". This point of view, which we have not seen so much, will undoubtedly be a behavior that can lead to radical changes throughout the lives of students. If the child learns to approach with suspicion, he will be curious, inquisitive and more creative. Some teachers emphasize that they cannot do much to improve the creativity of their students, as the curriculum is a process that dulls creativity.

In Yildirim's research (2006), the teachers directed the behaviors they thought developed creativity to activities, by presenting unstructured materials and by making the individual feel important. In this sense, the results of the two researchers show great similarities. In the research conducted by Aslan and Cansever (2009), teachers' opinions about creativity in the classroom are similar in many areas with the opinions of the teachers participating in the research. It was observed that teachers emphasized on learning by living and they needed the use different techniques in lessons. In this context, the teachers allow various role distributions and personations for the students, acrostic studies, improvisation, conduction different lessons which require hand skills together, directing the students who have musical skills to different lessons and organizing trips related with the topic. The contribution of the course materials used

after the education activities to the creativity was questioned. Teachers have stated that it will definitely work because the material used makes the lesson and the subject more concrete. Some teachers say that the material presented will limit both the teacher and the student, and the creativity of the child if the student prepares the material. If we take the creativity of the material prepared by the teacher candidates as a result of the "*Material Development*" lessons of the education faculties as the base we can see that this is a correct point of view. The creative student will show their creativity by using what they already see around them, using past experiences and what they learn in class. The role of the teacher here is to guide the student.

Teachers say that the material gives the student a different perspective, facilitates internalization, encourages analytical thinking, and pushes the student to explore.

2 vocational high school teachers who participated in the research emphasized the importance of using materials and stated that the diversity of the materials used in the workshops will make a significant contribution to both learning and creativity of the students but that these materials are not available in sufficient numbers in the schools. It is worth noting that all of the teachers who say that material is not necessary are teachers who enter the numerical courses.

The final topic explored in the context of creativity is the creative classroom environment. To determine this, teachers were asked how the classroom environment would be in order to improve the creativity of the students. Nearly half of the teachers expressed the classroom environment as a place where the student could feel comfortable and move freely. Following these it was stated that the class should be a place where students are able to share easily, have plenty of activities, and be a place where students can play and experiment. Some of the teachers said that classes need to be separated according to branches and that these classes can be enriched by visual materials and which can be easily accessed by the students and this will contribute to creativity. Nowadays, it is seen that this practice is made especially in middle and high school levels. There is no doubt that the logic in science laboratories will also contribute in other courses. Visual arts, music, computer and drama classes are also courses that can be easily applied to schools.

One of the ideas that are thought to develop creativity in the last place is a classroom environment where different ideas are valued. The students always come to class with different ideas. If they are encouraged, noticed and appreciated by the class, they can express their ideas comfortably. This will greatly affect creativity when combined with the guidance of the teacher. In Maier's work, it was also said that in order to be able to direct students to creativity, it was necessary to save them from the fear of failure, mockery, and not being creative. (Griffith & Clark, 1981). In a study conducted by Tezci & Gürol (2003) they have come to the conclusion that moving from the traditional learning environment which is repressive, unreliable and keeping the student passive to a more reliable education which allows as the student to be active and free it will lead to the development of the creativity of students. One of the teachers said that learning cannot be restricted with a classroom environment and that learning develops in every aspect of life as we continue to live. The answers given by 7 verbal and 10 numerical course teachers to the survey were compared among themselves but there was no significant difference in thought or type of thought that concentrated in one group. There were no significant differences in the answers given by the 8 teachers from the TRNC and 9 teachers from Turkey to the interview form, or the type of thinking that concentrated in one group. Only each teacher interprets the activities and classroom environment that he / she will perform according to his / her class level and course.

As a result of the research, it is suggested that teacher candidates and teachers be trained in creativity. In this sense, teachers who need to be more intellectual in this sense need to read, produce and travel. The Ministry of National Education should lead the art activities and cultural trips that pupils and teachers can participate both nationally and internationally. Students and teachers, who are more cumulative and more experienced, will undoubtedly be creative and will produce more.

4. References

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