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#### **ABSTRACT**

Doctor of Science degree of the dissertation submitted to receive

# DEVELOPMENT of CREATIVITY of UNDERGRADUATE STUDENTS

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#### GENERAL CHARACTERISTICS OF THE WORK

Relevance of the topic and degree of elaboration. The requirements for education in the 21st century differ sharply compared with the last century, even with the last 30 years. The rapid development processes in the world are dynamic in nature. Currently, Azerbaijan is not left out of these processes, our education is improving and integrating into the world education systems. In this process, the training of a new generation of teachers with professional, creative abilities and flexible and quality performance of pedagogical tasks is of particular importance. Pedagogically oriented higher education institutions should train students in such a way that they can shape students as personalities and prepare them for real life through the acquired professional skills. The main component of such a training is developed creative thinking and its ability to self-develop. Traditional education was based on the continuous and consistent assimilation of knowledge and the reproductive capabilities of learners without taking into account their individual and creative potential. Currently, the social, political and cultural processes going on in the world, the constantly changing demands of the labor market, the continuous development of science and technology force specialists to work in difficult situations, requiring them to have high erudition, to constantly update their knowledge, to conduct research, and to have the ability to approach their profession creatively. A modern specialist must respond to emerging situations in a timely and flexible manner, have deep knowledge of his specialty, be literate in other fields, and be able to adjust his pedagogical and psychological activities in each field.

Creativity is characterized as the main element of the modern era, not assimilation of information, but as construction of different knowledge, creation of new ideas. It is for this reason that creativity acts as the driving force of our age and society. The value of creativity, the demand for it, becoming a distinguishing feature of personality in all fields, is increasing day by day. Therefore, attention should be paid to its development, wide distribution and accomplishment. Creativity is the main feature of economic development as a driving force of progress. The evolving of new technologies and

resources is related to its existence. In modern times, it is necessary to encourage the personality to be creative in any field.

Currently, interest for creativity in pedagogy and psychology is constantly increasing.

Among the foreign researchers, it is necessary to mention the studies of J.Gilford, A.Maslow, K.Taylor, E.Torrens, E.Fromm, L.Vygotsky, D.V.Chernilevsky, A.V.Morozov, A.V.Khutorskoy, V.N.Drujinin, D.B.Bogoyavlenskaya and others. However, the attitude towards this concept is ambiguous. Different scholars have analyzed it from different perspectives. J.Gilford, E.Torrens, V.N.Druzhinin, D.V.Chernilevsky, D.B.Bogoyavlenskaya characterized it as personality ability, A.Maslow, K.Rogers, K.Taylor as personality feature, A.V.Khutorskoy as creative activity, and V.M.Shadrikov, J.Renzulli characterized it as manifestation of talent. Most researchers have stated that the presence of creativity does not create the basis for high creative achievements of the personality. According to V.N.Drujini, creativity can remain a "deep characteristic of personality" in the process of its development and does not develop in the process of education.

The experience formed in the traditional educational experience is not aimed at the development of creativity of learners, but on the contrary, it is aimed at the formation of memorization of learners. Researchers have also investigated the problem of development of creativity of the participants of the learning process (teacher, student, etc.). Observations were carried out in different pedagogical conditions. It is a pity that there are no solid studies and scientific articles on the problem in Azerbaijan. Our scientists focused on the study of the creative abilities of the personality. Such studies belong to A.A.Alizade and S.I.Seyidov.

The issue of organizing students' creative activity has been included in the works of most pedagogues and psychologists. A.A.Alizadeh, S.I.Seyidov, V.I.Andreyev, T.I.Shamovoy, M.I.Makhmutov extensively explored the problem of creativity in his works.

Most researchers suggest that the presence of creativity does not guarantee high creative achievements of the personality. According to V.N.Drujini, creativity can remain a "deep characteristic of personality" in the process of its development and is not developed in the process of education. The experience formed in the educational experience is not aimed at the development of creativity of learners, but on the contrary, it is aimed at the development of memorization.

Declared contradictions, deficiencies in the modern practice of higher education institutions related to creativity, lack of research in this field, society's demand for high-level professional, free-thinking specialists determined the research problem: the need to develop a model that provides the formation of creativity of students and creates a foundation for its development has emerged. Investigating ways intended to resolve conflicts defined the research problem. It was considered appropriate to reveal the training model that stimulates the development of students' creativity in higher schools, provides conditions for their self-realization, self-expression, and at the same time satisfies the society's demand for creative specialists. From this point of view, the mentioned problem became very relevant and determined the topic of the research: "Development of creativity in undergraduate education".

The object and subject of the research. The object of the research is the process of creativity development of students. The subject of the research is to determine the theoretical, organizational, methodical and practical foundations of the development of creativity among students in higher education institutions.

**Research goals and objectives.** The purpose of the research is to develop a model of developing creativity of students in order to improve the quality of higher education.

Based on the purpose of scientific research, the following tasks are defined:

- determination of the content and essence of the development of creativity of undergraduate students;
- analysis of local and foreign pedagogical-psychological literature regarding the development of creativity of students;
- analysis of the problem of development of creativity of students in program and methodical literature;
- study and generalization of the problem of development of creativity of students in higher school experience;

- determining the principles and criteria of the new model of creativity development in students;
- determination of possibilities and ways of development of creativity of students;
- verification of the development model of students' creativity through a pedagogical experiment;
- providing recommendations on the development of creativity in students.

# Scientific novelty of the research.

The essence, content, ways, methods and structure of the development of creativity of students studying for the teaching profession were worked out, conceptual approaches and principles were determined taking into account the needs of the modern era and world experience. rilmish is.

#### Theoretical and practical significance of research.

The theoretical importance of the research is in providing a new model for the development of creativity in undergraduate students based on scientifically based principles, requirements, and modern approaches.

The practical significance of the research is that the application of the results aimed at improving the quality of higher education in terms of the development of creativity to the experience of the university enables the realization of the concept of the development of creativity in students, the implementation of the principle and model of the development of creativity in order to improve the quality of the learning environment stimulates the development of creativity in students and removes obstacles plays a big role in lifting.

Approval and application. Approval of the main provisions of the dissertation work at the republican scientific conferences "Current problems of teaching foreign languages" and "Teacher training as one of the strategic goals" dedicated to the 95th anniversary of the birth of National leader Heydar Aliyev, dedicated to the 98th anniversary of the birth of National leader Heydar Aliyev. It was conducted in the form of reports at the IV International scientific conference "Heydar Aliyev: Multiculturalism and the ideology of tolerance". The specific results of the research were expressed in 23 scientific

articles published in our country and abroad (Kazakhstan, Russia, Hungary, Serbia, Spain).

The name of the institution where the dissertation work was performed. The dissertation was completed at the Department of Pedagogy under the Faculty of Education-1 of the Azerbaijan University of Languages.

The total volume of the dissertation with a sign indicating the volume of the structural sections of the dissertation separately. The dissertation work consists of introduction, 4 chapters, 12 paragraphs, conclusion, list of used literature. The introductory part of the dissertation work is 6 pages (12024 signs), chapter I 68 pages (124458 signs), Chapter II 59 pages (108934 signs), Chapter III 65 pages (125061 signs), Chapter IV 49 pages (74437 signs), the conclusion part is 6 pages (1018 signs), the list of used literature is 24 pages, the total volume of the dissertation work is 279 pages, 445932.

#### CONTENTS OF THE WORK

The first chapter of the dissertation entitled "Pedagogical and psychological foundations of the development of creativity in students" consists of three paragraphs. In this chapter, issues such as the importance of creativity in the globalized world, the pedagogical and psychological foundations of the development of creativity in students, creativity as a quality indicator of university education have been examined.

# 1.1. The importance of creativity in a globalized world

In education, the term creativity is often used, but there is no clear information about what form, when and how it manifests itself. Sometimes educators demand creativity from students without understanding the content of creativity, and even evaluate their answers. Failure to clearly explain this concept leads to misunderstandings and confusion with terms such as talent, art, and personal quality. For this purpose, it is necessary to break the stereotypes that cause misunderstanding about creativity. Recently, the expressions "innovation" and "value" are widely used as synonyms of the concept of creativity. In

fact, they show themselves in creative results. The relevance of the issue requires discussing the concepts of "innovation" and "value" in the context of education, defining the exact framework, and considering it as a process rather than a finished product. It is important to provide a clear explanation of both concepts, because it is possible that the original product is worthless. The wide use of the term in education, as well as bringing it into the training process, makes it necessary to answer some questions about their adaptation to the development and achievements of learners. Modern youth should have necessary, necessary, original and valuable ideas for society. Those concepts are related to daily activities, life, and everyone has a level of "small creativity". Teachers should consider age and subject characteristics in their approach to creativity.

Today, society has set a number of requirements for higher school graduates: self-development, readiness for innovations in social relations, harmonious relations with people and nature, and meeting the ever-changing needs of education. The current social order of education means the formation of a creative personality capable of solving society's problems by satisfying personal needs. The self-development of the personality directly results in the general development of the society and reflects the essence of the new social order. This is possible through a pedagogical environment that provides conditions for self-realization, self-determination, and successful education for learners.

The development of modern society takes place in the conditions of the formation of market relations, the increase of competition in all spheres of social life, and the strengthening of students on the intellectual, moral and cultural qualities of people. From this point of view, the future development of the higher school is possible as a result of the formation of creative and moral qualities of the students, along with knowledge, skills, and professional competencies. Society needs a person who builds and creates in various professional fields and has moral principles.

Currently, there is a contradiction between the current state of education and the modern demands of society. So, education does not meet the need of creative specialists of the society. The solution

to the problem is possible through the creation of a new, creative paradigm of education.

In modern pedagogy, training, upbringing, humanization of the development process, personality orientation, talent, creativity, interest, inclination and needs of the students are identified as priority directions. The social need of the society for a creative personality and the lack of scientific-theoretical and practical research conducted in this field maintain the relevance of the problem.

The society's demand for creative specialists who think creatively and make non-standard decisions necessitated the development of a new creative training concept and made it necessary to reveal the creative potential of future professional personnel and develop their creativity.

Taking these into account, A.Maslow put forward ideas about the creation of a new training concept in his works and stated that creativity should be one of the main criteria of personnel training [51, s.352].

Most scientists consider creativity to be the highest manifestation of the human phenomenon. However, it is one of the few investigated issues. The issue of organizing students' creative activity has been included in the works of most pedagogues and psychologists. A.A.Alizade, S.I.Seyidov, V.I.Andreyev, T.I.Shamovoy, M.I.Makhmutov extensively explored the problem of creativity in his works.

Innovativeness in education requires radical changes in the assessment process as well as in the content and methods of training. Today, most educational institutions in Europe have a rich creative experience. Studying that experience can greatly contribute to the organization of the process.

In the second paragraph of the first chapter, a study was conducted on the pedagogical and psychological foundations of the development of creativity in students.

The modern labor market requires the regulation of complex industrial relations and the availability of global experience. For this reason, higher education institutions of the XXI century should be able to meet the society's demand for necessary competencies. Educational institutions that cope with this task will be able to maintain

healthy competition in the labor market, in the production process, in the organization of work with information technologies, and in cultural life. Against the background of intense competition and complex problems, the role of social responsibility, communication and critical thinking is emphasized in the scientific scientific literature. In addition to the above, creative intelligence, innovative potential, professional skills and personal development are of great importance. It is for this reason that the interest in the concept of "creativity" has been steadily increasing in recent years, and the debates and discussions of scientists around it cannot stop.

Although the concept of "creativity" has been studied in various fields, it has been studied mainly in the fields of psychology and art. The role and importance of creativity in society, science, education, business is undeniable, but its essence has not yet been fully revealed [87, s.177]. The concept of creativity as a term was first used in the 18th century by Polish poet Matey Kazimierz Sarbiewski [271]. Investigating the nature of creativity, Z.Freud proved that it is a phenomenon that contains certain "dynamic factors" that result in creative attempts in the human mind [133, s.310].

In modern psycho-pedagogical literature, the attitude towards the concept of "pedagogical creativity" is ambiguous. It is defined as creative pedagogy or a special direction of pedagogy. Russian psychologist V.N.Drujinin thought that creativity and intelligence are independent, that is, independent, and opposite factors. Situations that encourage the emergence of intelligence are contrary to the formation of creativity [37, s.541]. Russian researchers have proposed different approaches to creativity. O.K.Tikhomirov called creativity the creation of a new product or the result of creative thinking, P.M.Yakobson, V.A.Molyakoyen called the creative process of product creation [273]. In modern times, creativity is more often evaluated as the ability of an individual to create original values, non-standard decision-making, going beyond the framework of known facts.

One of the problems related to creativity is the presence of certain gaps and deficiencies in its diagnosis. Until the end of the 20th century, researchers considered creativity as a function of intelligence, and the level of creativity was associated with the level of

intelligence development. Psychologists have conducted research on different people. Some involved people with average, some with high, and others with low intelligence. Based on the results of the research, it is believed that there is a relationship between psychometric properties and creativity, but it is not a linear correspondence. Scientists have decided that the level of intelligence and creativity are related to each other for a certain period of time. Excessively high intelligence hinders the development of creativity. Creativity is considered in E.Torrance's researches as a universal creative understanding, as an independent, intelligence-independent factor.

Along with E.Torrans, J.Gilford's research also included creativity. He classified six characteristics of creativity:

- Ability to identify and set the problem;
- Ability to generate ideas-speed;
- Ability to put forward different ideas flexibility;
- The ability to create non-standard ideas that differ from public views and existing ideas originality;
- The ability to improve the object, fact and event by adding new details;
  - Problem solving ability-analysis and synthesis [144, s.446].

A.Maslow noted creativity as a natural feature of self-actualizing personality.

Thus, "creativity" is explained as a multidimensional and multifaceted concept in modern science. In a broad sense, it manifests itself as an independent, unified, complete system, it operates in all directions of human life. This includes creative process, creative product. We would not be wrong if we say that a creative product is the result of a creative process. In the local sense, creativity is the human capacity for creativity, and it exists in everyone at some level. Creativity manifests itself in action, is formed and develops. In this process, the creative environment is of special importance. Thus, although creativity and general intelligence influence the thinking process, each plays a different role at different stages of that process. The individuality and uniqueness of a person is closely related to the problem of creativity. Creativity affects the character of the personality and the results of its activity, determines its socio-psycholo-

gical characteristics. Creativity makes it possible to adapt to the often changing conditions of life, defines new norms and rules of behavior, gives the personality the opportunity to realize its potential, makes its socialization possible.

In the third paragraph of the first chapter, creativity is called as a quality indicator of university education.

Since the pace of changes in society is accelerating, it is impossible to give an opinion about the knowledge and competencies that will be necessary in five years. In modern times, dynamic and innovative processes in all areas require the training of specialists who are able to take responsibility for solving complex problems, use creative abilities, competencies and knowledge in a coordinated manner. In this case, the main task of education is to prepare students for non-standard, original problem solving, to benefit from critical and creative thinking skills, to overcome the difficulties they may face in the future.

The processes going on in the world have not escaped Azerbaijan either. After our republic gained independence, a series of reforms were implemented in order to make fundamental changes in the field of education. This necessitated the preparation of relevant documents and programs. "Reform program in the field of education of the Republic of Azerbaijan" approved by order No. 168 signed by the great leader Heydar Aliyev on June 15, 1999 is one of the first steps taken in that direction. In accordance with the Education Sector Development Project concluded between the Republic of Azerbaijan and the International Development Association (World Bank) and implemented within the framework of the Credit Agreement, the program envisaged providing all areas of the education sector with competent, highly professional pedagogical personnel and increasing the quality of general education. One of the main goals of the loan is the formation of the necessary knowledge and skills in accordance with international education standards in the educational system of Azerbaijan, the preparation of personnel potential resistant to competition in the labor market, the implementation of innovations in educational institutions and the support of innovation initiatives. In order to reach the expected goals, important documents were signed

within the framework of the reform program. The Law of the Republic of Azerbaijan "On Education", "State Strategy for the Development of Education in the Republic of Azerbaijan", These documents, first of all, set special requirements for the process of pedagogical personnel training, and made the content suitable for modern times. Determining training methods and tools that can meet the increasing dynamic demands of society, familiarization with local and international experience, obtaining detailed information about educational legislation are the main requirements facing today's pedagogical personnel training. In order to satisfy the educational needs, the work carried out in that direction should be approached more systematically and carefully, and the most optimal action plan should be chosen. "The State Program for Informatization of the Education System in the Republic of Azerbaijan in 2008-2012", "The Concept and Strategy of Continuous Pedagogical Education and Teacher Training in the Republic of Azerbaijan" set the goal of the reform being of a humanitarian nature and directed towards the comprehensive opening of creative and qualitative activities of people. Enterprises engaged in pedagogical staff training in the direction of the accepted documents and their implementation should pay special attention to staff training with competitive, problem-solving, flexible, non-standard and original decision-making skills in the labor market. Activities should be carried out in several directions, training courses should be organized to improve and further expand the theoretical, practical, ICT and research skills of teachers in the field, and a professional development system should be created according to international standards. However, the analysis of the current situation in higher schools shows that teachers still prefer to use traditional teaching methods, and are passive in taking advantage of multi-media tools. The organization of training based on the remnants of the traditional system limits the development of creativity in students, the stimulation of creative activity, and the lesson is reproductive in nature. Thus, students become imitators of other people's ideas and activities, they are not able to exhibit new and original thinking. At the end of the process, the development of critical and creative thinking in students is not monitored, competition based on creativity does not take place, independence is not supported, achievement is not rewarded. In addition to the above, the implementation of lessons on the basis of programs that do not correspond to the modern educational philosophy and do not meet the requirements of the day makes creativity even more relevant at the personal and social level. Abundance of information, difficulty in lifestyle forces people to adapt to the times and look for new ways to define their position. This makes every member of the society to reveal their creative potential and to determine the possibilities of using it. People cannot stay out of the processes in enterprises, they are forced to update their activities. Therefore, the education system should be oriented to the preparation of specialists for the future, which is considered complicated to predict. In general, the creation of creative products that improve people's well-being is the demand of the 21st century, and people with creativity are the main resources that meet the needs of the economy. Researchers unanimously emphasize that creativity is inherent in all people and that the educational system should provide economic and social development through creative human resources at both the national and global levels. During the research, it became clear that, in addition to Azerbaijan, which has become a part of the world education system, the situation regarding the formation of creativity of students is not satisfactory in most developed countries. In the State Strategy for the Development of Education in the Republic of Azerbaijan, "cultivating an independent and creative thinking citizen and personality" is defined as the main task of the education system. The strategic goal of the education system is "the application of higher education standards that support the transformation of higher education institutions into education-research-innovation centers and provide competitive specialist training, and the preparation of modern standards for each specialty in accordance with the needs of society and the economy." Realization of the goals is focused on revealing the talents and skills of learners at all levels of education, starting from pre-school educational institutions, and their development through special training programs and textbooks is brought to the fore. The conducted studies prove the existence of gaps in this field. Fundamental work must be done to eliminate

deficiencies.

A study conducted by the Association of European Universities in 2007 revealed the importance of keeping in mind the main characteristics of creativity in the teaching process. As a result of the research, an algorithm was established for the purpose of creativity formation and development:

- Originality the ability to come up with unusual and interesting ideas;
- Appropriateness- implementation of appropriate and relevant activities;
- Looking into the future-defining future prospects, anticipating future events and showing an adequate response;
- Problem-solving ability-identifying solutions to overcome the problem, considering different approaches, reducing options that have failed from experience, preparing for risks.

Based on research, it is possible to conclude that there is a noticeable gap between the creativity levels of graduates of higher education institutions and the world of work. In order to eliminate the deficiency, an appropriate learning environment should be formed, a teaching methodology that develops creativity in students, motivates them, and prepares them for real life and work should be developed and applied, and tools and techniques that increase the creativity of learners should be developed. Therefore, the goal of modern education is to reveal their potential to students, create a foundation for their comprehensive development, and achieve positive changes in educational activities. It is for this reason that the development of creativity in learners should become an integral part of the higher education experience.

The second chapter of the dissertation, entitled The Concept of Creativity Development in Undergraduate Students, consists of three paragraphs. The first paragraph of the second chapter mentions the innovative university environment as the main factor in the development of creativity in students.

Dynamic changes in the economy in modern times have brought to the fore the need to use creativity. The rapid development of the labor market creates a foundation for enterprises and organizations to use new technologies, apply innovations, and create creativity. Undoubtedly, the development of the process, the implementation of reforms in the education system, the introduction of radical changes, the spread of new approaches have placed important tasks in front of educational institutions and their teaching staff. The main task of the higher education institution is to provide society with high-level professional specialists with flexible decision-making. It is for this reason that the increase of creative potential is possible in students, who are the most dynamic class of society, in general, in higher schools.

Usually, the term "creativity" is used in parallel with the concept of "innovation". What is innovation and how does it relate to creativity? Creativity is the first step towards innovation. It is the dissemination and implementation of new ideas, procedures, processes. The bearer of innovations is a person.

In a broad sense, innovation means a new, different, original approach to modern thinking, facts, events, and ultimately a product that is valued by everyone. The creation of innovations always requires hard work, persistence, and endurance, because the implementation and realization of good ideas is a difficult and continuous process. Ideas about creativity and innovation change, develop and expand over time.

Currently, researching the relationship between creativity and innovation is one of the issues in the focus of attention in Europe. The Council of Europe has prepared a specific action plan, highlighting the issues of turning economic capital into human capital, strengthening opportunities for creativity and innovation in the direction of the development of the knowledge society, creating fertile conditions, and ensuring economic and social competitiveness. The process was started in March 2000 in Lisbon, Portugal by the adoption of the Lisbon strategy by the heads of the fifteen countries that were members of the European Union at that time. In the document, for the next decade, "building and developing a competitive and knowledge-based dynamic economy in the world, increasing jobs, and close social unity" is defined as a strategic goal. The Lisbon strategy, a new strategic goal of the Council of Europe, envisages global

competitiveness in the direction of economic reconstruction, development of the social sphere, and environmental protection. In order to achieve the goals, it was proposed to the heads of state to organize activities in the direction of transformation and reconstruction of the European economy, social welfare and modernization of the education system. In the Lisbon strategy, the importance of knowledge and innovation for Europe in the modern era was specially emphasized. In 2006, at the spring session of the European Council, the need to develop broad innovative approaches was confirmed during the review of the objectives of the provisions of that document. It was noted that education and training, openness to innovation should be the main development priority of Europe.

The adoption of the Bologna agreement in 1999 and the accession of most European countries to that agreement in 2003 made it necessary to implement reforms in higher education institutions. Education experts positively evaluate the Bologna process and reforms. A progressive and effective feature of the process is the strengthening of cooperation between the participating countries. The joint activity includes professors and teachers of higher schools, educational experts, student organizations, and agencies for evaluating the quality of higher education. Since it was not possible to achieve the goals set in the Lisbon strategy, an action plan for the development of the European Union until 2020 was developed. According to that document, the Council of Europe should get the right to be called the Innovation Union by 2020. Therefore, the Council of Europe should conduct an innovative policy and take this into account in the development of all areas. The innovative policy of the Council of Europe should not only correspond to the requirements of the Lisbon strategy, but should also include meaningful, dynamic development.

If we look at the graduates of our country's higher education institutions, we can note with regret that they do not fully meet the requirements of the labor market, either in Azerbaijan or abroad. It cannot be said that there is no creativity in any of the university graduates today. Of course, creativity is manifested in a certain part of young people. But this is more random. Because creativity is not the rule in the traditional educational paradigm, but the exception to

the rule. Naturally, the question arises here: "Why?" The main reason is that creativity is not taken into account as the main criterion for organizing effective training in pedagogy. In the training of specialists in all specialties, students should be taught to approach innovation enthusiastically, to improvise, to be creative. In order to ensure creativity in education, it is necessary to awaken a person's sense of creativity, initiative, reveal creative potential, cultivate self-confidence, self-confidence, generation of non-standard ideas, formation of humane, humanistic values, and creativity. Establishing the framework of the listed skills implies the improvement, and sometimes reconstruction, of the teaching-training system in universities, the application of different methods, resources, approaches and pedagogical technologies. Taking these measures will make it possible to achieve scientifically and practically quality results and generate new ideas. Creativity is the organization of the learning process through creativity. Creative education gives everyone the opportunity to master the modern methodology of creativity, in addition to revealing creative potential, it creates the need to further develop it in the future, to form a tendency for self-development and self-evaluation in a person.

Creativity is part of the structure of human capital and should be developed during the period of study in higher education. Innovation is implemented, realized creativity, it is not in individual persons but in the nature of everyone, since it belongs to everyone, it is necessary to develop and develop programs that ensure its development along with the formation of basic knowledge in universities. Taking into account the mentioned fine nuances in the training process will create a foundation for the formation of creativity in students and their ability to function as competitive personnel in the labor market in the future.

The analysis of the examples listed above shows that the issue is in the center of the world's attention, developed countries understand the relevance of the problem for the modern era, and take concrete steps towards its solution. There are both similarities and differences between the action plans that have been developed. In the words of A. Maslow, the steps taken regarding the development of

creativity in different countries are aimed at the creation of a new, procedural, creative, improvising, self-confident, brave and independent person, which is important for us.

Therefore, it is necessary to develop a creative-oriented training concept that creates a foundation for the development of the creative potential of learners and increases the effectiveness of personnel training. The concept should meet the modern requirements of education and reflect the changes taking place on a global scale. Because in the current situation, there is a great need for the training of specialists who foresee changes, are ready for them, are able to make improvisations, and make creative decisions.

The second paragraph of the second chapter mentions the teacher's creativity as the main condition for the development of creativity in students.

One of the priorities in education in modern society is to teach students to think creatively, think freely, and make judgments. Human creativity depends on what factors? A creative person is distinguished by his high work ability, diligence, mental activity, patience and restraint, controlling his emotions, joining the creative process with great energy, endurance. What is the reason why creativity manifests itself in a more prominent form in some people, and in a relatively limited framework in others?

The internal conditions of the development of the teacher's creative thinking include his openness to new experience, preparation, internal evaluation of the creative beginning. There must be external conditions to create internal conditions. A safe environment and psychological freedom, personal development of the teacher, professional self-realization, professional development, motivation and stimulation play a special role here. The listed issues should be regulated by legal and normative documents adopted by educational institutions and the state in general. The state programs on educational reform carried out in Azerbaijan improve pedagogical personnel at all levels of education and regularly organize professional development courses. Currently, higher education institutions are particularly interested in increasing the quality indicators of educators. For this purpose, certain steps are taken towards the participation of

teachers in both international and local trainings and seminars. Currently, various organizations are conducting training for the financial well-being of the institution they represent, and teachers are attending these courses in order to increase the number of their certificates. Sometimes such trainings result in an ineffective waste of time and money of educators, because neither the level of professionalism of the trainer nor the quality of the materials presented are of any importance. Also, preparation of unnecessary reports and filling of various forms results in loss of teachers' time. However, the more effective use of material and spiritual potential can stimulate the personal development of the teacher and strengthen his creative potential. When these are directed to the learning activity of students, it is necessary to gain high efficiency.

Currently, the main issue that concerns the pedagogical staff of educational institutions - the professor-teacher team is the problem of preparing learners for complex, often changing, dynamic real life, future professional activity, and developing their creative potential.

Developing creativity in learners is closely related to four main aspects:

1. Encouraging and stimulating students in the process of teaching the subject

Intra-subject creativity is one of the motivational factors in learners. Most people believe that creativity in higher school is manifested in solving intra-subject problems. The teacher must determine what creativity is, how and in what situations it arises within the scope of the subject he teaches.

2. Transferring pedagogical approaches to the development of creativity to learners

By providing extensive and comprehensive information about creativity, by showing examples, the educator should raise the level of knowledge and practical skills of students, as well as support and encourage their creative steps. Teachers can organize the process in different ways and approaches. The approaches they use during training can be divided into three main categories:

- Knowledge transmitter "wisdom shower";
- Facilitator "leader from outside";

- Meddler "interfering, interfering, working together with learners in the learning process". Each of these should be used to help and shape students.
- 3. The importance of the curriculum (program) and individual learning environment that ensures the development of creativity

It is imperative to prepare students for real life - unknown, often changing situations, conflicting problems, which differ from the minimal risk, safe, comfortable environment of higher education. The educator should work with multiple-choice tasks and plan a learning environment in which punitive measures are not applied for wrong answers. Usually, the teacher defined the teaching material, the learning outcomes and the process of their achievement in advance. However, the modern paradigm of education requires the organization of lessons based on new approaches. According to modern theories, students should be encouraged to define their own learning environment as part of higher education.

## 4. Perception of creativity by learners

Creativity manifests itself more quickly when faced with any problem situation in everyday life, outside the institution of higher education. People think of the optimal way out of the difficult situations they face, and thus creative activity occurs. Teachers should make this delicate issue a priority to prepare learners for real life.

## 5. Organization of creativity process in students

Creativity is not only the generation of new ideas, but also the ability to use different sources for the synthesis of ideas, to transform existing ideas into new forms in original ways. For this purpose, students can be offered to use different sources of information related to the problem and choose the most effective one from them. Also, they should be stimulated to reveal their potential to create an innovative model of information exchange through the new methods they learn from different sources.

Creativity is based on the activities of different people, it creates conditions for the combination of ideas, the emergence of new views and the selection of the best. Students can be asked to study the activities of creative people and how they synthesize ideas.

The third paragraph of the second chapter is called the

#### role of critical thinking in the development of creativity.

The main task of education in modern times is the development of thinking and thinking skills of students. The importance of the development of thinking manifests itself in everyday life, work, education, and relations between people in society. Since it is directly related to the level of a person's lifestyle, it must be taken into account in the training process. An ideal lifestyle is characterized by independence, successful communication, innovation, confidence and peace of mind. The mentioned features strongly encourage each other's development. Issues such as researching and expanding the scope of the concepts of "creative thinking" and "critical thinking", solving real-life problems, improving activities, evaluating information and arguments in a public context, and making important decisions serve this purpose. Educators encourage students to be creative: not to repeat old examples and knowledge, but to respond correctly to new, unknown situations, offer new and more effective solutions to problems, demonstrate original activity, etc. they wish. The formation of critical and creative thinking in the training process is usually considered separately, the activity of both is organized independently. A person usually spends his time, talent and financial resources on issues that he considers important and valuable. This also applies to thinking skills. Unless proper value is given to the development of thinking and thinking skills, its importance and development in training will be neglected. For this reason, an unequivocal position on the relationship of both types of thinking in training should be stated and the directions of their development in the training process should be determined. Critical thinking is usually valued as analysis, as a means of making judgments within a certain structure or context. Creative thinking has the characteristics of imagination, constructivism, and generativity. It creates an opportunity to get out of the frame of the structure, to go beyond the limits. Scholars differ in their views on the relationship between both types of thinking. Some researchers have stated that they act separately and complement each other. For example, according to E.Glazer, "creativity enriches critical thinking, but does not act as its important component" [142]. De Bono, on the other hand, emphasized that there is a contradiction

between both types of thinking. Thus, going beyond the limits of a certain framework requires abandoning the logic and standards for critical evaluation that characterize the structure. However, both groups are united in one idea: critical and creative thinking are fundamentally different and therefore require the development of different pedagogical approaches.

There are different views on the development of critical thinking. According to some scientists, the skills for the development of critical thinking should be formed in the process of independent activity of students, should be developed through the taught subjects and training materials. Here, divergent thinking, techniques that stimulate agility should not be forgotten, but on the contrary, they should be kept in focus. Others say that a number of factors of critical thinking have a negative impact on creativity and the development of creativity. De Bono, who is known for researching lateral thinking style, put forward such an idea: "A wealth of experience in any field can limit creativity, because having detailed knowledge of the field hinders, and sometimes prevents, the creation of new ideas."

Of course, there is a fundamental dichotomy between critical and creative thinking. However, one is integrated into the composition of the other and contributes to its creation. Just as there are critical (analytical) and judgmental aspects in the generation of creative results, there are also elements of imagination and discovery in the development of critical thinking. Therefore, it is difficult to distinguish between different types of thinking.

Critical thinking limits a person to a certain framework. Since it is built in a closed structure, it is not provided with means to overcome the limits, even the evaluation is done inside the framework. Critical thinking is engaged in reasoned judgment, decision-making, and differs mainly in adherence to analytical, evaluative, and selective rules. The necessary information and relevant reasoning techniques provided within the framework are judgmental and algorithmic in nature.

Creative thinking, on the other hand, goes beyond the limits of the framework and involves discovery, imagination, the generation of new ideas, the breaking of the old framework, and has opposite indicators to critical thinking. It is spontaneous, generative and non-judgmental, based on intuition and subconscious processes rather than logic and evidence.

What is creative thinking? Different definitions of creativity have been given in pedagogical and psychological literature. In the book "Development of creativity in higher education", they explained that term as fantasy, imagination and the opportunity to discover a new world: "creativity is a talent not for the chosen ones, but for all people, it can be formed and developed in everyone". The role of critical thinking in the organization of the learning process should not be ignored when studying the issue of creativity development in students.

Analysis of the literature on critical thinking has shown that authors rarely evaluate it as a talent of a person. Most researchers believe that it is a characteristic that all students possess (in varying degrees, of course) and that the main purpose of higher education is to develop critical thinking in learners. S. Bailin noted that both terms mentioned above are part of thinking, but the process of developing creativity and critical thinking is based on different pedagogical approaches. "Critical thinking is analytical. It involves judging within the given content and framework" [86, p. 27].

Taking into account what has been said, we believe that the development of critical thinking in students, the acquisition and analysis of the means of understanding and the necessary information in the learning process directly lays the foundation for the development of creativity. The development of both types of thinking is of particular importance in modern education. Considering them in unity, organization of training activity with reference to both types of thinking has a direct effect on increasing the efficiency of the educational process. The development of creativity in parallel with critical thinking, as well as through critical thinking, doubles the quality of training and creates a foundation for achieving the set goals.

The third chapter of the dissertation, called the development model of creativity in undergraduate students, consists of three paragraphs. The first paragraph of this chapter examines the issue of taking into account the development of creativity in

#### learners in training programs.

Higher education institutions of the 21st century "are socially responsible for arming members of society with the necessary competence, knowledge, understanding, and new skills to adapt to changes in the labor market, workplaces, information technologies, and people's cultural affiliation".

Our study did not examine the experience of foreign countries regarding the problem. 2010 survey of job market recruiters by the Association of Colleges and Universities in the United States found that companies, factories, and employers in general have changing expectations of graduates. 90% of the respondents stated that, unlike in the past, the modern specialist must have a higher level of knowledge and skills to meet the high and complex demands of the labor market. Only 28% of the respondents said that they were satisfied with the labor activity of the graduates, and 68% emphasized the need to improve the activity in this direction. The fact that the result of higher education does not meet the requirements of the time does not leave an impact on the choice of employers, their business relations, the employment of graduates and the formation of professional skills.

In order to prepare students for real life, the higher education institution should think and prepare such a form of training that the students can overcome them and make the right decision when faced with problems, risks, and controversial ideas in unknown situations and contexts. To this end, universities should provide learners with multiple-choice problems, create learning environments where mistakes are not penalized, or adapt existing ones. N. Jakson states that the creation of an appropriate learning environment and conditions ensures the development of creative thinking in learners and their involvement in creative activities. The researcher made some suggestions for this purpose:

Table 3.1.2 Consideration of conditions that develop creativity in students in training programs

1.	To give freedom and choice to students by creating a situation
	that inspires, stimulates, arouses deep satisfaction and personal
	interest;
2.	To provide a basis for students to identify and value situations
	focused on personal and social development;
3.	To prepare students for experience in risky, uncertain and
	unknown situations;
4.	To support students in challenging situations enables them to
	appreciate change.
5.	To help students gain experience in creativity, play, research,
	organization, self-evaluation, test their knowledge and skills in
	various activities, think and act in complex situations;
6.	To stimulate students to show creativity, initiative and be a
	resource in carrying out events and tasks that they and others value;
7.	To create an opportunity for students to develop basic skills and
	apply them in practice in the modern world, where pluralistic,
	cultural diversity is represented;
8.	To instill relationships in students that foster collaboration,
	personal growth, and learning;
9.	To form ethical and social behavior responsibility in students;
10.	
	regulating and reflexive activities in order to be the builders of
	their lives, to help them in this direction.

The principles proposed by the researcher were used in the application of life-related curricula at the University of Surrey, England. The ideas given above are in harmony with the current processes in Azerbaijan education, accepted legal-normative documents, and their requirements for the organization of the pedagogical process. Consideration of those principles in the training process can serve to develop a number of competencies as well as the develop-

ment of creativity in students

The second paragraph of the third chapter is called *the method* of using new learning technologies in the development of creativity in students

The change of the paradigm of Azerbaijani education is related to external factors as well as internal factors. At the turn of the century, contradictions between the traditional approach and the new social relations in Azerbaijani education were sharply manifested. Our education has given outstanding figures to the world culture, but the main problem in modern times is to achieve the application of fundamental scientific knowledge. Currently, educational reforms are aimed at solving these issues. Numerous studies show that the solution to the problem begins with the training of pedagogical personnel. One of the main tasks facing modern education is to adapt the potential of specialists to the rapidly changing demands of the labor market. The labor market requires not knowledge from a specialist, but their application in practice, the performance of professional and social functions. Thus, the training of personnel with creative, flexible decision-making skills in unusual situations, who exhibit original thinking style is prioritized. The formation of the listed features once again proves that creativity has an irreplaceable role in the learning process.

The development of creativity skills and the increase of the tendency to creativity in students should be carried out in the process of learning various fields. The most important factor affecting the development of personal creativity is pedagogical conditions. The analysis of the pedagogical experience shows that the creative potential of the personality and creative thinking are independent identification of problems and contradictions, investigation and analysis of any problem, the ability to solve them, knowledge, skills, transfer of training activities to new situations, the ability to see new sides in known situations, existing knowledge, activity it manifests itself in synthesizing its types with new ones. The listed skills are not always innate, it is also possible to form them purposefully through training technologies. Active training (group discussion, brainstorming and its various types, morphological analysis, synectics method, etc.) has a special role among the technologies that ensure the

development of personality creativity.

The application of interactive technologies that enable learners to cooperate in the learning process is one of the main conditions for the successful development of creativity. Interactive technologies include interactive lecture, work in pairs, work in small groups, training. Active learning technologies stimulate the cognitive activity of learners, involve learners in behavioral and mental activity, and enrich their knowledge. One of the technologies that create a foundation for creativity is the pedagogy of solving creative tasks. Its main goal is to accustom learners to solving open (heuristic, creative, vital) problems. Open problems direct students to think creatively, systematically, logically, to understand the world, to establish connections between taught subjects. Scientists and educators preparing programs and methodologies for the development of creative thinking believe that the following are the main components of creative human potential:

- divergent thinking;
- flexibility in thinking and actions;
- rich imagination;
- attitude to ambiguous events and facts;
- preparation for risks;
- speed of thought;
- original ideas and unusual ideas.

The solution of creative tasks is made possible through preestablished algorithms, in the end, an improved and consistent result is obtained, existing contradictions are eliminated, and the effectiveness of special principles is revealed. The analysis of the students' activities has shown that it is possible to monitor the features that Gilbert considers essential for the development of creativity (productivity, flexibility of thinking, originality and the ability to solve complex problems) while solving creative tasks. Productivity assessment measures tasks and actions performed by learners in a certain period of time (proposing ideas, making arguments or counterarguments, visualizing situations, searching for information on the Internet). Usually, the following criteria are considered as the main indicators: the interpretation of facts and events, the reasoning behind the conclusion and their authenticity.

The third paragraph of the third chapter is called *Developing* creativity in learners through assessment.

The processes taking place in the modern world have not by passed education as they cover all areas. It is for this reason that specialist training and the requirements for it differ sharply from the end of the last century. At present, rapid changes are taking place not only in Azerbaijan, but also in the education system of the world's leading countries. The reason is to meet the ever-changing demands of the labor market and train specialists who meet them. Therefore, in order to meet the dynamic demands of the labor market, the current higher education system should be reconsidered and gradually reformed.

Modern young people intend to get quality education. Currently, before making a choice, applicants conduct a survey among university students, research the university's educational process, material and technical base, employment of graduates, organization of education, draw conclusions and clarify their decisions. Students wish that the investment they made in education will be spent in the right direction and that it will return to them in the future. Among the factors that create the basis for the improvement and development of the quality of education, the most important is the assessment, which is the measurement unit of quality assurance. Organizations conducting extensive research in this regard at the world's leading universities share information on the organization, conduct and optimization of evaluation in their studies and reports.

In addition to the work done in the direction of improving the quality of education in higher schools, special attention should be paid to the assessment that has a direct impact on it. The most important of the current problems in the teaching process is the application of evaluation methods that cannot satisfy the needs of a large student population. Supporting this idea, G. Gibbs emphasizes that most tasks do not motivate learners to engage in learning activities. The use of large-scale, complex and multiple-solution tasks that "require demonstration of understanding" arouses interest in training and stimulates students. Western researchers are deeply investigating the changes in the evaluation policy and practice of the higher school in

recent years, discussing the impact of evaluation on the organization of students' free time and the direction of their efforts [99].

Currently, special attention is paid to graduates meeting the needs of the labor market, providing them with a job, lifelong, continuous education. Thus, giving students the ability to plan personal learning processes and monitor their results is a priority. K. Bryan and K.Klig noted that "in modern times, the impact of assessment on pedagogy in improving the learning process has been neglected" [102, p. 286]. In fact, modern assessment should go beyond the traditional assessment system with limited capabilities that measure the level of knowledge.

In fact, modern assessment should go beyond the traditional assessment system with limited capabilities that measure the level of knowledge.

A.Kraft stated that "creativity became a part of the universalized discussion in the Western world, was reflected in legal normative documents and programs on education, and gained an appropriate status" [112, p.183]. From what has been said, it can be concluded that the training of specialists with creative thinking is already at the forefront in Western universities, and in a world subject to flexible economic and technical changes, urgent measures should be taken for innovative development, workforce that meets creative requirements, and specialist training. Creativity should be considered as a key aspect of personal and social development. Although most researchers emphasize the importance of the development of creativity in students, not only in Azerbaijan, but even in the world's leading higher education institutions, the mechanisms for evaluating creativity have not been fully developed [112, p.183; 159, p.104; 174, p.11]. It is for this reason that creative imagination is not properly measured, and sometimes it is prevented. P.Kleiman stated that despite the rich literature on the problem, the concept of creativity is not properly defined, the meaning and content of the term is not fully explained, the scope of use is not clearly defined, and a multifaceted and unanimous opinion is not formed about it [159, p.104]. For example, H.Gardner perceives creativity as a combination of special cognitive skills, such as subject knowledge, internal motivation, flexibility, adaptation, and preparation for testing conflicting approaches [138, p.42]. K.Byron gave it a broader definition and valued it as a new and different answer to open questions and problems [104, pp. 281-293]. Great Britain's National Advisory Committee for Creativity and Cultural Education defined creativity as "an activity conceived to produce original and valuable results", but did not explain in what sense those expressions were used [180, p.243].

The materials collected during the research and the obtained results proved that students are interested in the advantages of using alternative learning methods and teaching approaches, and they have positive opinions about the university they are already studying. The research confirmed the idea that an environment supported by innovative learning principles and universal values, problems with different solutions, criteria prepared for their evaluation, practical, reflexive and collaborative training brings out the creative potential of all learners. P. Knight notes that "how we evaluate students, what measurement tools we use is an indicator of the value we have" [161, p.28]. Since evaluation is one of the important parts of the educational process, appropriate training and seminars on the design and evaluation of creative assignments should be held for the professors and teachers of higher education institutions. Educators should have extensive discussions about creativity, different learning situations, new methods and tools, and share their experiences related to creative pedagogical approaches and ideas. It is impossible to measure and evaluate the portfolio, which includes activity products, and training results with traditional methods. Therefore, higher education institutions should re-examine their learning objectives and, in general, revise the assessment system as a whole.

Chapter IV, dissertation called "Experimental verification of the efficiency of creativity development technology in the process of pedagogical activity" consists of three paragraphs. The first paragraph of this chapter is titled "Problem Study". The paragraph focuses on the following issues: The problem of developing creativity in students attracted the attention of experts from all over the world. At the International Forum on Creativity held in Oklahoma City, Oklahoma, USA in 2010 creativity explained as follows:

"Creativity is the driving force of our brilliant ideas, decisions, and profitable businesses." At the forum, it was noted that the concept of creativity is of great importance and the need to implement urgent measures in accordance with this global demand [106].

If the model is applied taking into account the principles and criteria of creativity in training and non-training at the undergraduate level, if the following conditions are met, creativity will act as a higher school resource as an intellectual-heuristic feature. In order to prove the validity of the proposed ideas, the following assumptions were made:

- if a competency-oriented creative learning environment students be creative, provides opportunities for self-development to all subjects of the learning process, envisages connections between the learning process carried out in the auditorium and activities characterized by the availability of information and communication technologies and conditions for scientific research activities;
- if conditions are created for the integration of interdisciplinary theoretical and practical knowledge in the process of achieving learning goals that are the basis of creativity and encourage independent research;
- if the transition from reproductive to creative, to activity that ensures the development of imagination is ensured by giving preference to creative cognitive-educational activity;
- if the potential of the teacher increases on the basis of special preparation for mastering innovative-creative learning technologies, the ground will be created for the self-realization of students in creative learning activities, the development of free thinking, understanding, self-development and creativity will take place.

As a logical continuation of our research, we decided to investigate the factors and activities that influence the development of creativity in students at this stage. For this purpose, during the defining experiment stage, we reviewed the activities of the centers and laboratories operating at AUL and the effect of the implemented projects on solving the problem.

At the university USA, France, China, India, Serbia, Indonesia, Norway, and Austria etc. culture and information-resource centers operate at the initiative of the embassies countries. The Confucius

Institute, the Goethe Institute have branches of prestigious organizations such as the German Reading Room, OEAD (Osterreichische Austauschdienst) and the Austrian Library. AUL is an approved institution for conducting TOEFL (USA), TOMER (Turkey), AYOS and OEAD (Germany) languages tests. AUL has established extensive relations with British Universities.

Our research during our studies has shown that students are not as likely to engage in new, creative activities when they are active in the environment in which they study out of habit. However, when they leave their usual comfort zone, creativity as a mechanism of self-development moves from the level of education to the level of life.

Stanford University professor R.Sutton explained the difference between routine activity and innovative activity as follows: "The first is the use of old ideas, and the last is exploration in the field of new possibilities" [110]. If we consider the mentioned idea on the pedagogical level, we will come to the conclusion that participation in exchange programs abroad is directly related to innovative activity and gives students the opportunity to explore new learning opportunities. The routine activity is based on procedures and activities that have been carefully developed within the framework of the university. Innovative activity can be attributed to students' trips to foreign countries, during these trips they fall into completely foreign conditions, face an uncertain situation, have to overcome a number of obstacles in the natural language and unusual learning environment.

At this stage of our research, the events organized by students at AUL, the organization of their free time, were extensively invest-tigated and analyzed from the point of view of the development of their creativity. Thus, the activities of students at AUL are regulated according to the Decree, Orders and instructions of the President of the country, the Law of the Republic of Azerbaijan "On Youth Policy", and the State Program "Youth of Azerbaijan in 2017-2021". The provisions of that program envisage creating fertile conditions for the development of the young generation, supporting the activities of young scientists and researchers, encouraging student entrepreneurship, ensuring the participation of young people in international exchange and intercultural dialogue. Special attention

was paid to stimulating the intellectual development and creative activity of young people. In order to implement the mentioned provisions, various measures and activities are carried out in the mentioned university. Painting competition dedicated to Heydar Aliyev and intellectual competition "What, Where, When", essay writing competition among students on the occasion of the 91st anniversary of Heydar Aliyev's birth, festival of artistic creativity, round table on Heydar Aliyev's legacy and Modern Azerbaijan.

In addition, a national student-student scientific conference was held on the occasion of the 95th anniversary of Heydar Aliyev. Students and pupils of various higher and secondary schools of the Republic participated in the conference. The activity of the Student Scientific Society in higher schools is one of the important issues at present. Involvement of students in research activity gives a special impetus to the development of their creativity.

The study of the experience showed that students' creativity was more focused on extracurricular activities, as 64% of them demonstrated handicrafts or thought up and presented different work methods. Creativity in speech has developed in 23% of students. The obtained evidence shows that students did not value creativity as self-realization in the learning process. They note that they are not required to show creativity in the training process.

Thus, from our research, we can conclude that students have a desire to study, develop as a person, and invest in the future. While they are in foreign universities, they value practical training, they like that it is not necessary for students to participate in lectures. Because all materials can be viewed on the university's website. It should be noted that students apply the theoretical knowledge they have acquired in their universities to practice and project work while studying in universities of foreign countries. Students positively evaluate their communication with students and teachers from different countries. This communication allows not only to learn the English language in depth, but also to learn the customs and traditions and culture of those peoples in depth. As it can be seen, this kind of interest of the students lays the foundation for the development of creativity in them. They overcome the language barrier and

speak more freely in English, and the motivation to improve linguistic competence is more precisely monitored. Observations have shown that the qualities of creativity in the learning process also affect the life experience of students.

# Conducting a deterministic experiment

During the defining experiment, teachers used the programs, textbooks and additional methodological literature available in their subjects (exercises, cases, games, etc. were conducted):

- a) students listen to lectures;
- b) prepare and respond to the content of lectures listened to at seminars;
  - c) participates in practical classes;
- d) students are offered case studies, research and role-playing games;
  - e) teaching has experience.

The training was organized using traditional teaching methods.

Organization of a deterministic experiment

The defining experiment was organized in 2018-2019, and 98 students of the first, second, third and fourth years of the faculties of education, Essex, Sabah and philology took part in it. Teachers of AUL specialized subjects were involved in the experiment. However, they were not ready to develop their creative abilities. The results of the defining experiment were assessed individually based on the students' creativity. During the academic year, the students' skill level was determined twice.

The purpose of the first test was to determine the level of creative abilities, worldview and knowledge of students according to creativity criteria. The second check clarified the final result of the competencies obtained by students in creative terms.

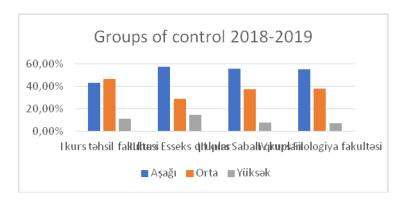
The evaluation of the results of both deterministic and educational experiments was carried out with the presentation of test examples tasks and tests (testing methods), which we prepared taking into account the difficulties that arose when observing the activities of students. Students' independent work was continued by completing problem tasks in various situations; after analyzing and summarizing the results, the maturity of the creative qualities of each of

them was determined.

The results of the determination experiment are presented in the table below (Table 4.1.3)

Table 4.1.3
Conducted to develop creative qualities.
Deterministic experiment results

Years	Groups of Control	Number	The level of performance		
		of	of tasks		
		students	low	midle	high
2018-	I cours	28 n	12	13	3
2019	Education faculty		42,8%	46,4%	10,7%
	II cours	14 n	8	4	2
	Groups of Essex		57,1%	28,5%	14,2%
	III course	27 n	15	10	2
	Groups of Sabah		55,5%	37,0%	7,4%
	IV course	29 n	16	11	2
	Faculty of Philology		55,1%	37,9%	6,8%



As can be seen, in the control group (98 people) during the deterministic experiment, the indicators of the development of creative qualities of students in the I-year faculty of education are respectively low 42.8%, average 46.4% and high 10.7%. In the II-year Essex groups, respectively, it is low 57.1%, medium 28.5% and high 14.2%. In the III year Sabah groups, the low level was observed with 57.1%, average 37.0% and high 14.2% indicators. In the fourth year of the Faculty of Philology, the indicators of students' creativity qualities were 55.1% at

the low level, 37.9% at the middle level, and 6.8% at the low level.

At the stage of the deterministic experiment, a very important pattern was also discovered: students believe that their extracurricular creativity was associated with a lack of attention on the part of teachers to the development of creative qualities in the educational process. Only in the classes of practical English, pedagogy and psychology, through the presentation of cases, special situations and tasks, were conditions created for a creative approach.

The experiment revealed that students consider creativity a very valuable quality and see it as one of the main factors in building a successful career in the future. In addition, students added the concepts of sociability, accuracy, kindness, determination, politeness, thoughtfulness, risk, and sociability to the list of important qualities.

Thus, a contradiction arises between the students' idea of developing creative abilities and the teachers' lack of real understanding of this problem. When checking the results of the determination experiment using the verification methodology, the following contradictions were identified. These are the following:

- 1. Between the requirements for the development of students' creative abilities and the insufficient experience of teachers in this area.
- 2. Between conducting the training process in the traditional way and the need for creative personal development.
- 3. Between the formation in students of a complete understandding of the specialty and the lack of practical skills that limit their creative abilities.
- 4. Between the formation of interest in the educational process and failure to take into account the individual characteristics interests inclinations and needs of students.

Our defining experiment results are summarized as follows: students do not value creativity as a way of self-realization in the learning process. They see the application of creativity indicators only in activities outside of training;

- students have little interest in scientific research. This is due to the fact that teachers do not pay due attention to conducting research work with students. At the university, students do not participate in collective scientific research and research.

- students do not consider the university environment as a place for the development of creativity and believe that creativity can manifest itself externally individually and collectively, depending on the emotional state and mood of a person.

At the defining stage, it turned out that students consider stubbornness, perseverance, courage, honesty, discipline, sociability, accuracy, kindness, dedication, politeness, awareness, and finding a common language with people to be important factors in the development of creative qualities. We can conclude that the values of communication and cooperation always complement each other. In general, the results obtained show that creativity were included in students' value perceptions and can be improved and developed.

# The second paragraph of Chapter IV is called "Pedagogical experiment." This paragraph addresses the following issues:

In the 2019-2020 academic year, I, II, III and IV year students of the pedagogical, Essex, Sabah and philological faculties of AUL were involved in the experiment. In order to conduct an educational experiment, special trainings on student creativity were conducted with teachers of I, II, III and IV courses. Teachers used the principles of developing creative abilities in their lessons. The results of the determination experiment showed that the creation of an appropriate learning environment indicates the presence of sufficient potential for the development of students' creative abilities. To do this, it is appropriate for the teacher to be creative, give room for creativity, empathize with students, encourage them to express independent opinions through appropriate tasks, take initiative, and sometimes use humor. At this time, the creative abilities of students, developing in the learning process, gradually extend to their life activities. The experiment was carried out on the basis of a modular program developed by us taking into account the above (the program is given in the appendices).

Purpose of the experiment:

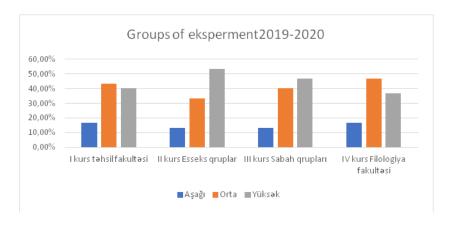
- implementation of a new model for the development of students' creative abilities;
  - proof of the reliability of the proposed hypothesis;
- checking the effectiveness of the presented new model in all aspects;

### Experiment objectives:

- an integrative approach in each area of the modules;
- evaluation of the results by the previous verification method (as in the defining experiment);
- comparison of the results of deterministic and educational experiments and assessment of the effectiveness of the new model.
  - summing up the results of the study.

Table 4.1.4
The results of an educational experiment conducted with students in the learning process and outside of learning to develop creative qualities

Years	Grouf of eksperment	Students	The level of performance of tasks		
			low	middle	high
2019-	I course	30 n	5	13	12
2020	Fakulty of education		16,6%	43,3%	40%
	II kurs	15n	2	5	8
	Group of Essex		13,3%	33,3%	53,3%
	III course	30 n	4	12	14
	Group of Sabah		13,3%	40%	46,6%
	IV kurs	30 n	5	14	11
	Fakulty of Philologiya		16,6%	46,6%	36,6%
2018- 2019	Group of control	Students N	low	midle	high
	I course	28 n	42,8%	46,4%	10,7%
	Fakulty of education				
	II course	14 n	57,1%	28,5%	14,2%
	Group of Essex				
	III kurs	27 n	55,5%	37,0%	7,4%
	Group of Sabah				
	IV course Fakulty of Philologiya	29 n	55,1%	37,9%	6,8%





Based on the results of the educational experiment, it was found that students in the experimental groups achieved better results than students in the control groups, which is due to the effectiveness of the materials we provide in the educational process for the development of creative abilities.

As can be seen from the table, the indicators of the control groups (98 people) were 42.8% at the low level in the first year, 46.4% at the middle level, 10.7% at the high level, 57.1% at the low level in the second year, 28.5% at the middle level. and 14.2% at the high level, 55.5% at the low level in the III year, 37.0% at the middle level, 7.4% at the high level, 55.1% at the low level in the IV year, 37.9% at the middle level and 6 at the high level .8%, this change manifests itself more prominently in the experimental groups. Thus, the indicators of creative development of the experimental groups

(105 people) are manifested in this ratio: the demonstration of creativity decreased from 42.8% to 16.6% at the low level in the first course, while it was 43.3% at the middle level, at the high level, it increased from 10.7% to 40%. In the II year, students' creativity indicators decreased from 57.1% to 13.3% at the low level, from 28.5% to 33.3% at the middle level, and from 14.2% to 53% at the high level. increased to 3%. While the creativity indicators of thirdyear students were at a low level of 55.5% in the control group, this number dropped to 13.3% in the experimental group. It increased from 37.0% to 40% at the average level, and from 7.4% to 46.6% at the high level. Creativity development of fourth-year students in the control group was at a low level of 55.1%, while in the experimental group this figure was much lower and was 16.6%. The indicators of students at the middle level increased from 39.7% to 46.6%, and at the high level from 6.8% to 36.6%. These indicators once again proved the effectiveness of the training we provided on the development of creative qualities in students and the correctness of the hypothesis we put forward.

The third paragraph of Chapter IV is called "Verification Experiment". This paragraph addresses the following issues:

At the testing stage of the experiment, the effectiveness of the educational methodology in developing creative qualities in students during the learning process and during the extracurricular period was determined, and the dynamics of its development were also checked according to the above criteria. Test questions, assignments, situations and tests used to determine the effectiveness of the educational and testing experiment, at the end of the experiment in the experimental groups, revealed differences in the creative qualities of students. As a result, students in the experimental group completed all assignments and independent work more actively and efficiently than students in the control class.

# Results of the verification experiment

Thus, the correctness of the hypothesis we put forward at the stage of the verification experiment was proven. The comparative results of the defining and educational stages the pedagogical experiment on all indicators of the level of development of students'

creativity qualities in the educational stage proved to be higher. (level of knowledge, cognitive activity, originality, development of imagination, intuition, sense of humor, creative approach to the profession, prediction, self-evaluation, self-development, peers and other communication with people, leadership skills, expert culture, objective criticism, etc.).

All these indicators have proven that the applied model of development and formation of creative qualities in students is more effective. Students easily communicate with teachers and team members both in the learning process and outside of class make new proposals, put forward project ideas, strive for initiative, are able to express opinions, make decisions, draw conclusions and compromise each other.

Thus, the results of the experimental study showed that the use of a didactic model for the development of students' creative qualities made it possible to achieve positive results in the creative and personality-oriented development of I-IV year students.

It should be noted that the activities of student teachers who achieved high results were also especially noted. Specially trained teachers communicated more comfortably with students, guided them to creativity encouraged them to take initiative and sometimes used humor.

According to the level of creativity, teachers can be divided into three groups:

Group I, includes teachers who work with traditional methods and try to innovate a simple process of activity.

Group II, includes teachers who apply their new system of methods in an interesting and relatively complex process of activity.

Group III, includes teachers who develop pedagogical technologies in the field of creativity.

Teachers of Group I; "What are the creative abilities of a teacher?" List the factors that develop this." The answer was the following: The abilities are: the ability to observe and analyze, generalize, grasp the main idea, and present the result in advance. They included the system of didactic skills, the quality of teaching and educational material, student questions, and communication as

factors.

Thus, in their opinion, a creative teacher must have psychological and pedagogical thinking, pedagogical skills, be able to conduct research, take a critical approach and use best practices.

II group of teachers asked the question: "What should be the conditions for the development of a teacher's creative qualities?" How to create it? The answers to their questions were as follows: the moral and psychological atmosphere in the team should be high, there should be an incentive for innovation, the financial base of the enterprise should be normal, there should be a place for free criticism and discussions. There should be an influence of the leader's personality and free time. Thus, for the development of a teacher's creative abilities, the chemical qualities of accuracy, discipline, honesty, enthusiasm, attention and self-confidence are important.

The questions asked to the third group of teachers were as follows. "What qualities of a creative teacher reveal and develop the creative potential of a student. What is the responsibility of a teacher? The answers to the questions were as follows.

Pedagogical tact, the ability to share the student's feelings and thoughts, acting skills, asking unexpected questions, creating problematic situations and supporting initiatives are considered as a two-way process. Thus, the formation of a creative personality is connected, on the one hand, with the presence of the creative qualities of the teacher's personality, and on the other, with the acquisition of experience in creative activity.

#### Result

Based on the analysis and generalization of scientific and theoretical research, pedagogical experience and at the same time a pedagogical experiment conducted at the faculties of "Education-1" and "Education-2", Essex, Sabah and philological (I, II, III and IV first-year students) got the following results:

Analysis of scientific, pedagogical and methodological literature, as well as the study and generalization of pedagogical experience showed that in our country there is not enough scientific work on the creative development of students and few scientific articles in this area. In the practice of university teachers, there are partially

methods that develop the creative abilities of students [26].

Since creativity and innovation are the need of the hour, reforms begin with the format, content and methodology of education. The result of this is the introduction of constant innovation in all areas based on previously gained positive experience. Teachers are the main drivers of change. Creative teachers constantly change their approaches and methods, apply innovations in the educational process and in extracurricular activities.

Research has shown that the development of creativity in the learning process consists of presenting educational material in original ways, developing students' creative thinking through problem solving [41].

Research has shown that it is important to ensure the development of creativity at all levels of education, since it is one of the important factors stimulating innovation [85].

Research has shown that innovation in education in the modern era requires radical changes in the assessment process, as well as in the content and methods of teaching [25].

In most people, it is possible to discover, develop and continuously expand creativity. In the university environment, this manifests itself in a more pronounced form, and thus, the educational environment in the higher school can create conditions for the emergence of creativity [37].

The main priority direction of higher education is the development of thinking and creative abilities. An educational institution that chooses this direction in its activities gives preference to non-traditional teaching methods, explores new teaching methods, and reveals student learning paths [240].

The role of technologies for developing creativity in the higher education system was undeniable. When the use of technology was aligned with the purpose and purpose of creative learning, the basis is created for sharing knowledge and experience and achieving more effective results. Correct setup of the process depends on a comprehensive and detailed study by education workers and teachers of the possibilities for developing creativity in higher education, and ways of successfully implementing the creative process [22].

The development of critical thinking along with creative thinking in the learning process was undeniable. The development of critical thinking depends, first of all, on the teacher their training, the methods chooses, uses and applies, their critical approach to educational material, independent, flexible decision-making, taking into account the interests, inclinations and needs of students [38].

The study showed that from the point of view a creative approach, the teacher-student relationship involves improving the quality and level of education, cooperation and relationships that provide a tolerant, psychologically healthy environment in the learning process. This approach provides an opportunity not only for comprehensive development, but also for the full assimilation of knowledge and both of students and teachers of personal development. The teacher's and student's self development directly affects. [236].

During the learning process, the development of students' critical thinking, acquisition and analysis of means understanding and necessary information creates a direct basis for the development of creative abilities. The development of both types of thinking is of particular importance in modern education. If we consider them in unity, then the organization of educational activities taking into account both types of thinking has a direct impact on increasing the effectiveness of the educational process [22].

It is necessary to have training programs in content and design that provide solutions to problem situations, provide increased motivation and are interesting for students. The use of various forms of training programs (problem-oriented, research-oriented, experience-oriented, content-oriented, role-playing games, collaborative learning and modeling), supporting the organization of the educational process in new, unexpected, unusual situations, supports the development of creative abilities [39] .

The results of the pedagogical experiment showed that the indicators of creative development of the control and experimental groups manifested themselves in the following ratio: the manifest-tation of creativity decreased from 42.8% to 16.6% in the 1st year, while in the 1st year it was 43, 3%. average level, and at a high level it increased from 10.7% to 40%. In the second year, student create-

vity indicators decreased from 57.1% to 13.3% at a low level, from 28.5% to 33.3% at an average level and from 14.2% to 53% at a high level increased to 3%. If in the control group the creativity indicators of third-year students were at a low level - 55.5%, then in the experimental group this indicator decreased to 13.3%. It increased from 37.0% to 40% at the medium level and from 7.4% to 46.6% at the high level. The development of creative abilities of fourth-year students in the control group was at a low level - 55.1%, while in the experimental group this figure was significantly lower and amounted to 16.6%.

The indicators for middle-level students increased from 39.7% to 46.6%, and for high-level students from 6.8% to 36.6%. These indicators once again proved the effectiveness of our training in developing the creative qualities of students and the correctness of our hypothesis [239].

At the stage of the deterministic experiment a very important pattern was also discovered: students believe that their extracurricular creativity is associated with insufficient attention from teachers to the development of creative qualities in the educational process. Only in practical classes in English, pedagogy and psychology by presenting cases, special situations and tasks, conditions were created for a creative approach [40].

Based on the results of the educational experiment, it was established that students in the experimental groups achieved positive results compared to students in the control groups, which is associated with the effectiveness of the materials we presented in the learning process for the development of creative abilities [23].

At the testing stage of the experiment, the effectiveness of the educational methodology for the formation of creative qualities in students in the educational process and during extracurricular periods was determined, and the dynamics of its development were checked according to the relevant criteria [238].

Test assignments of questions, to determine situations and tests used the effectiveness of the educational and testing experiment, at the end of the experimental groups revealed differences in the creative qualities of students. As a result, students in the experiment-

tal group completed all types of tasks and independent work with greater creativity and quality than students in the control class [24].

Thus, the development of creative abilities is positively influenced by taking into account the following factors in the learning process:

- 1. Creation of interdisciplinary connections.
- 2. Appeal to different types of intelligence.
- 3. Taking into account individual characteristics in the training process.
- 4. Understanding the value and importance of creativity in the labor market.
  - 5. Clear and precise formation of creative skills
- 6. Creating equal opportunities in learning. Identifying student orientation, focus on development, stimulating activity, creating a favorable environment as the main principles.
  - 7. Ensuring inclusive learning.

Based on the results achieved during the research process, we consider it advisable to consider the following proposals:

Higher education institutions should support and encourage the development of creativity in every possible way. The need of society for creative specialists who think creatively and make non-standard decisions has necessitated the development of a new concept of creative training; the emergence of the creative potential of future specialists and the development of their creative abilities have become a necessity.

Faculty should be encouraged and supported to promote innovative teaching methods both internally and within the university, with advice to help them share resources and teaching materials among themselves and to create a network that promotes the dissemination of positive best practice. All teachers must be involved in this process and must move towards new goals.

There is a noticeable gap between the level of creativity of university graduates and the world of work. To eliminate the deficiency, it is necessary to create an appropriate learning environment, develop and apply teaching methods that develop the creative abilities of students, motivate them, prepare them for real life and

work, as well as means and techniques that increase the creative abilities of students.

The development of students' creative abilities should become an integral part of higher education.

Elimination of existing shortcomings is possible as a result of the efforts of a team of university professionals. Therefore, higher education institutions must work interactively with other educational institutions.

The use of various exchange programs, professional development, and cooperation in various areas will help teachers improve their activities.

Universities should become part of the regional innovation system. This relationships includes ongoing higher education between government and industry. Close tripartite cooperation can provide the opportunity for scientific advice, research funding, development and implementation of business projects.

An innovative basis for the educational process, taking into account the interests, inclinations and needs of students, constructing a training course in a more creative form will ensure the competetiveness of universities and guarantee the employment of graduates in the labor market. These activities should be carried out in parallel and in a flexible rhythm.

It is necessary to develop a creatively-oriented teaching concept that creates the basis for the development of the creative potential of students and increases the efficiency of personnel training. The concept modern educational requirements and must reflect changes occurring on a global scale.

The development of creative abilities depends more on environmental factors. Therefore, when students are not under pressure, they tend to build and create in a safe and positive environment, be creative and show enthusiasm.

Higher education institutions should as a whole reconsider their learning objectives and generally reconsider the assessment system. Assessment is an important component of teaching and learning. This makes it possible to provide feedback on the quality of the process, identify and improve weaknesses and strengths. From this point

of view, it is necessary to conduct appropriate trainings and seminars for the teaching staff of higher educational institutions on the design and assessment of creative tasks.

In addition to preparing assignments for summative assessment, providing students with practice oriented activities that build the foundation of the creative process and stimulate its development, as well as measuring results through formative assessment, guarantees eventual success.

First of all modern assessment policy, reflect a change in the educational paradigm traditional assessment methods should be completely abandoned or used in an interpretation that resonates with the dynamic requirements of the time.

## The main provisions of the dissertation were published in the following scientific works:

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