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Study of student teachers' creative activity during the COVID-19 pandemic

Nadezhda Yu. Kostyunina* (a), Lilia A. Latypova (b), Anastasiya O. Luchinina (c)

(a), (b) *Kazan Federal University, 420008, Kazan (Russia), 18 Kremlyovskaya street, nu_kost@mail.ru*

(c) *Vyatka State University, 610000, Kirov (Russia), 36 Moscovskaya street*

Abstract

Higher education has undergone a dramatic transformation during 2020 – 2021. The COVID-19 pandemic put forward a number of new requirements and demanded alternative mechanisms necessary for the life and work of universities. The experience has shown that distance learning format is becoming the most effective and relevant one. In such conditions, one of the crucial tasks of teacher education is the development of a creative, responsible, independent personality. The purpose of the research is to study the level of student teachers' creative activity during the COVID-19 pandemic and justify the need to introduce the model of creative activity enhancement in distance learning format. The given research is a pilot experiment of Kazan Federal University and Vyatka State University (Russia) to reveal the components of student teachers' creative activity, to develop criteria for assessing their creative activity; to identify the problems and challenges student teachers face when studying in a distance learning format; to propose ways to increase students' creative potential by means of active methods and techniques through distance learning technologies at the Microsoft Teams platform. The authors consider the use of active teaching strategies will help focus on the inclusion of students in specially organized, increasingly complex educational online activities that ensure the development of creative abilities and personality traits: creative motivation, curiosity, desire to fantasize, divergent thinking, sensitivity to problems, ingenuity.

Keywords: creativity, creative skills, creative activity, creative potential, distance learning, University students, active teaching strategies.

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* Corresponding author. E-mail: nu_kost@mail.ru

Introduction

The transition of many universities in Russia to distance learning format during the pandemic has become a hot issue. Russian scholars Shtykhno, Konstantinova and Gagiev (2020) identified the key challenges faced by the university community switching to distance learning format. Scientists highlight the growth of educational inequality, the dependence of the quality of education not only on the potential and facilities of educational institutions, but also on the competencies, technical facilities and provisions of students and teachers themselves; the increased load on both students and teachers, etc. However, it stands to mention that the crisis served as a stimulus for innovation in the field of education. Such forms as online formats, distance learning technologies, interactive technologies, mobile technology, mobile applications, proctoring and digital educational environments have become part of the new educational reality into which University students, teachers and administrators have unwittingly plunged into over the past 2 years. In this regard, new requirements are imposed on the creative activity of future specialists, which is manifested in the ability not only to keep up with life in a crisis situation, but also to stay ahead of it, to be the creator, to be able to design one's own professional life and transform the surrounding reality.

Creative activity is an integrative indicator of a specialist's professional skills, which is currently considered to be one of the most demanded professionally important personality traits. The relevance of the study is due to the need to train specialists who can effectively plan possible ways of future development, generate original ideas thinking outside the box and rising above classical ideas and methods of activity. A modern teacher must possess not only professionally significant knowledge and skills, but also the ability to think creatively, designing individual educational routes for students. A creative approach to activity is the basis for self-development and self-realization of an individual in the current conditions during the COVID-19 pandemic.

Purpose and objectives of the study

The purpose of the research is to study the level of student teachers' creative activity during the COVID-19 pandemic and justify the need to introduce the model of creative activity enhancement in distance learning format.

The hypothesis is the assumption that the level of student activity during the COVID-19 pandemic is quite low and there is a need to increase it.

The scientific novelty of the research results lies in the study of student teachers' creative activity level during the COVID-19 pandemic and substantiation of the implementation of the model of creative activity enhancement at the University.

The given research is a pilot experiment to determine the creative activity level of student teachers during the COVID-19 pandemic; to reveal the components of creative activity, to develop criteria for assessing creative activity; to identify the problems and challenges students face when studying in a distance learning format; to propose ways to increase student teachers' creative potential by means of active methods and techniques through distance learning technologies at the Microsoft Teams platform.

Literature review

The phenomenon of creativity and the creative process was studied by Ponomarev (1976), Rubinstein (1957), Barron (1968), Guilford (1959) and others. Most researchers understand creativity as an activity that generates something qualitatively new that has social value. According to Kozlov (2014), in the constant creative process, a person is completely immersed in creativity, and the creative activity of people is called upon to be the main component of the culture of society.

The problem of a person's creative activity development is considered by the following researchers:

- in a holistic pedagogical process (Bogoyavlenskaya, 2002; Ilyasov, 1992; Kirsanov, 1996; Sushchenko, 2018; etc.);
- in the course of cognitive independence development (Vyatkin, 1997; Eremina, 2003; etc.);
- through the use of various methods of education and training (Bezyuleva, 2003; Ushachev, 1995; etc.);
- through the development of the creative potential of students in the system of higher educational institutions (Zhelezovskaya, 2007; Zimnyaya, 2010; Matyushkin, 2017; etc.).

Analysis of the works of Russian psychologists Ananiev (2008), Bogoyavlenskaya (2002), Krutetsky (1964), Leites (2001), Leontiev (1960), Ponomarev (1976), Yakobson (1966) makes it possible to single out the following provisions, which are widely used in pedagogy in the development of both theoretical and applied aspects of the creativity of students of all age groups:

- every student has the ability to be creative;
- differences in students' manifestations in activity, efficiency, pace, dynamics and preservation of changes, peculiarities of connection with other personal features and other factors do not disclaim the presence of students' creative ability; instead, they suggest the need for an individual approach in the pedagogical process for creative ability formation;

- creativity can be developed; in its development, a significant role belongs to the so-called transfer mechanism, which ensures the continuity of the development of these abilities in various types of activity;
- creativity of students and creativity of adults have one psychological and pedagogical basis;
- creative qualities, formed in the process of mastering the content of education on the basis of educational and cognitive activities, retain their significance and serve as the successive basis for their further development after graduation from school in all social spheres.

Currently, there are different approaches to the problem of creativity. The first is based on the fact that creativity is the factor independent of intelligence (Guilford, 1959; Ponomarev, 1976). The next approach to the problem of creativity is formulated as follows: a high level of intelligence implies a high level of abilities and vice versa. There is no creative process as a specific form of mental activity. Most researchers that studied the problems of intelligence adhered to this point of view (Aysenck, 2009; Sternberg, 2002). Another approach refers to the case when there is no creativity as such. Here, intellectual giftedness acts as a necessary, but insufficient condition for the creative activity of an individual, and the main role in determining the nature of creative behavior is played by motivations, values, and personality traits (Bogoyavlenskaya, 2002; Maslow, 1999). They classify cognitive giftedness, sensitivity to problems, independence in challenging situations as the main features of a creative personality. It is worth highlighting the ideas of Bogoyavlenskaya who introduced the concept of a person's creative activity due to a certain mental structure. In her opinion, what is commonly called creative abilities, in fact, "is the ability to carry out situationally unstimulated productive activity", that is, the ability to implement cognitive activity. Thus, in the concept of Bogoyavlenskaya creative ability is viewed as the ability to develop activities on the initiative of the student (Bogoyavlenskaya, 2002). In general, the concept of activity is introduced into the structure of creative abilities by many researchers: intellectual activity was studied by Menchinskaya (1981) and Slavina (1979); Leites (2001) focused on mental activity; Matyushkin (2017), Sokolov (2002) and Golubeva (2005) considered activity on engagement in research; while Venger (2010) and Dyachenko (1997) explored cognitive activity. However, so far, there has been a lack of scientific papers devoted to the issue of University students' creative activity during the COVID-19 pandemic in online learning.

Understanding the fact that creativity cannot be taught is important in solving the problem of developing the creative activity of University students. Genuine creativity cannot be presented in the form of samples or benchmarks of products of smb's activity; it carries novelty and gives freedom for self-expression of an individual.

According to Ponomarev (1976), creativity "doesn't consist in the activity, each link of which is completely regulated by predetermined rules, but in the activity, the preliminary regulation of which contains a certain degree of uncertainty, in the one that brings new information, presupposing self-organization".

Creativity of a University student is an indicator of personal development, the formation of a subject able to produce something new, both in the conditions of everyday life and future professional activity. A student's creative activity is usually individual. Creative activity is not viewed only as the intensification of the student's intellectual and physical forces, but as the quality of the personality's activity, manifested in the student's attitude to the content and process of activity, in his/her desire to successfully master knowledge and methods of activity, in mobilizing moral and volitional efforts to achieve goals of the activity. The aspiration to understand deeply the essence of phenomena and their interconnections, being able to find new ways of such understanding, to apply existing knowledge in new circumstances, that is, to transfer knowledge and methods of activity to conditions that were not known to the student until now; to seek and find new knowledge - all these are characteristics of the creative activity of a University student.

Distance learning is the interaction of a teacher and students with each other at a distance. It reflects all the components inherent in the educational process and implemented by specific means of Internet technologies or other means that provide interactivity and activity. Undoubtedly, this is a fairly new format for the implementation of the educational process, which involves the rejection of the reproductive model of education and the introduction of an individual model. This model should be based on the principles of cognitive psychology: learning through independent discoveries, comprehension of terms and concepts, active participation in the learning process and an adequate assessment of one's own results and achievements. The main trend of the ongoing educational reforms is providing a global open information and communication educational environment, the core of which are Internet technologies, creating conditions for teaching students to work in self-education mode, meeting personal needs for knowledge, allowing them to adapt in a pandemic.

Kuzmina (2012) highlights the following advantages of distance learning:

- flexibility - the presence of an online learning platform allows you to attend classes regardless of the location: the only condition is the Internet connection;
- modularity - each discipline is presented in a remote mode in the form of modules that allow you to form a holistic idea of the subject being studied, as well as to compose from these modules an individual training plan for specific requests of the student;

- concurrency - distance learning allows you to freely combine study and work, which contributes to the timely assimilation of the provided material;
- long-range action - the distance from the student's location to the educational institution is not an obstacle to an effective educational process;
- non-simultaneity - the schedule and pace of training can be selected in reliance on the individual characteristics of the student;
- coverage - large-scale or massive involvement - the number of students in the group does not affect the performance of each individual student: students have access to many sources of information (electronic libraries, databases, etc.);
- cost-efficiency - economic efficiency of distance learning education;
- functions of a teacher-tutor: coordinating the cognitive process, adjusting the course, consulting, managing educational projects, etc.;
- requirements for successful learning using distance learning technologies: self-organization, hard work, a certain starting level of education;
- new information technologies.

Valeev, Latypova, & Latypov (2016) advocates the importance of applying interactive technologies as they “upgrade learning efficiency, increase the speed of assimilation of the material, encourage the active participation of each student in the learning process and provide multifaceted impact on them”. “The pervasive use of interactive technology and mobile applications serves as the intellectual basis for teaching creativity in a new generation” (Latypova, Polyakova, & Sungatullina, 2018). According to Istenič Starčić, Huang, Valeeva, Latypova, & Huang (2017), “mobile technology providing instant information access and connectivity supports new types of learning relationships, connecting students outside the immediate classroom context. Mobile technology is transforming social practices and facilitates learning embedded in them. Students are engaged in cross-cultural learning and thus develop knowledge, skills and attitudes from within the context meeting other cultures” (Istenič Starčić et al., 2017).

It should be noted that distance learning technologies, due to the variety of digital platforms and resources, their accessibility within the framework of being in a virtual classroom, contribute to the disclosure of students’ creative potential. Microsoft Teams, Zoom and Google are some of the platforms for the implementation of distance learning in higher educational institutions. The Microsoft Teams has become the main platform for the implementation of distance learning at Kazan Federal University and Vyatka State University.

In Microsoft Teams you can create a team and carry out communication, broadcast audio and video conferences or meetings, design assignments and training materials, use chat instead of email, safely modify files simultaneously with other users, make adjustments by adding notes, websites and applications. To improve work efficiency, Microsoft Teams has a chat where you can also attach photos and documents, as well as an interactive whiteboard and a tool for broadcasting presentations. The development of students' creative potential on this platform is facilitated by active teaching methods and various forms of work. Active teaching methods are ways of enhancing the learning and cognitive activity of students. They encourage active thinking and practice in the process of mastering the material, when both the teacher and students operate actively. Active methods in the learning process help overcome stereotypes in teaching, develop new approaches for professional situations and develop students' creative abilities. Universally teachers use the active methods that are divided into 2 groups: non-imitative, such as: problem-based learning, educational discussion, independent work, etc., and, imitative: situation analysis, individual tasks, cases, game methods, etc. They are not innovative. However, according to Dryden (2003), the idea is that "there is a new combination of old conventional elements - there are no new elements, there are only new combinations: replace, combine, rearrange, flip, use differently".

Methodology

The study took place in a distance learning format during the COVID-19 pandemic in KFU (Kazan Federal University, Kazan, Russia) and VyatSU (Vyatka State University, Kirov, Russia). The study involved 87 KFU student teachers and 80 VyatSU student teachers aged 18-20. It was carried out in three stages:

1. At the first (exploratory and theoretical) stage, the problem was analyzed in the psychological, pedagogical and methodological literature on the research topic; the scientific fundamentals and rationale of the research were determined; the methodology of experimental research was selected.
2. At the second (experimental) stage, the features of student teachers' creative activity were determined.
3. At the third (generalizing) stage, systematization and processing of research results was carried out, theoretical and experimental conclusions were made.

The analysis of the philosophical, sociological, psychological and pedagogical literature made us consider the student's creative activity as an integral quality of the personality, consisting of a complex of intellectual, emotional-volitional properties, implemented in the educational process on the basis of the creative interaction of the teacher and the student, which motivates the latter to be creative in educational and cognitive activities, actively and purposefully master knowledge, engage in self-study, independently set goals for activities, as well as formulate tasks (problems) and solve them in unconventional manner.

Thus, the concept of "creative activity" is a complex integral formation that includes readiness for creative activity (as a certain motivation for creative activity), creative potential (personality traits) and creativity (as the ability to create something new). Having studied the content of personality activity and creative activity as the highest degree of its manifestation the authors identified the components and criteria of student teachers' creative activity (*Table 1*).

Table 1. Components, criteria and indicators of student teachers' creative activity development

Components	Criteria	Indicators
Motivation-based component	Extrinsic and intrinsic learning motivation	<ol style="list-style-type: none"> 1. Motives for students to become teachers. 2. Cognitive motives. 3. Professional motives.
Content-based component	Creative potential	<ol style="list-style-type: none"> 1. Curiosity. 2. Self-confidence. 3. Striving for independence.
Activity-based component	Creativity	<ol style="list-style-type: none"> 1. Willingness to formulate and solve non-standard tasks. 2. Independence in performing creative work. 3. Ability to exercise self-control.

To identify and evaluate the above-mentioned criteria and indicators, the following diagnostic tools were used (*Table 2*):

Table 2. Criteria and diagnostic tools to identify student teachers' creative activity development level

Criteria	Diagnostic tools
Extrinsic and intrinsic motivation for learning	Motivation of Teacher Training University students' learning activity (Ket'ko & Pakulina, 2010)
Creative potential	Self-assessment of a person's creative potential (Fetiskin, Kozlov, & Manuilov, 2002)
Creativity	Questionnaire "Determination of modes of thinking and creativity level" (Bruner, 1977)

Results

According to the "Motivation of Teacher Training University Students' Learning Activity" methodology by Ket'ko & Pakulina (2010) both 65% of VyatSU respondents and 58% of KFU respondents have extrinsic motivation for learning. These students have extrinsic motives to become teachers, shallow cognitive motives, irrelevant professional motives. This means that the motives for learning are not related to the very process of studying at the university and are outside of educational activities (to keep up with fellow students, to earn the respect of teachers, to win approval of others, to avoid condemnation and punishment, to work in private organizations). They prefer learning activities that are simplified and not time-consuming (they prefer simple tasks or what is supposed to be done just to get a grade).

There is poor cognitive flexibility in learning activities, suppression of creativity and increased tension. Students adapt to the university environment and to the university education system.

Intrinsic motivation for learning is specific to 35% of VyatSU students and 42% of KFU students. Students are guided by internal motives for entering a University; they have broad educational and cognitive motives and motives for self-education, relevant professional motives. This means that the motives for learning are associated with the interest in the educational process and profession (an aspiration to work in the chosen profession, to study successfully, to acquire profound knowledge, to receive intellectual satisfaction, to pursue self-realization and self-improvement). They give preference to difficult and extensive learning tasks. There is a high cognitive flexibility in learning activity, creative problem and learning task solving. Students productively adapt to the University environment and to the University education system.

According to the results of the "Creative Potential Self-Assessment" methodology, proposed by the team of authors in the "Psychology of Creativity" book (Ponomarev, 1976), the majority of students (75% in VyatSU and 78% in KFU) have an average creative potential. This indicates that students have skills and abilities that allow them to create, but because of some impediments, they cannot do it to the utmost. Such impediments might be, for example, fear of failure, fear of social stigmatization. Any new idea is perceived through the stages of unexpectedness, surprise, non-recognition by others. The fear of being stigmatized for practicing new, unusual for others behavior, expressing views and feelings constrict the creative activity of students, leads to the destruction of a creative personality. Some students (10% - VyatSU and 2% - KFU) do not believe in themselves, which makes them think they are not capable of creative activity and searching for something new. Among the respondents there were students with significant creative potential, which provides a wide range of creative opportunities (15% - VyatSU and 8% - KFU). They freely realize their abilities, and they have access to a wide variety of creativity forms.

The "Types of Thinking and the Creativity Level" Questionnaire by Bruner (1977) was chosen to study the level of student teachers' creativity. According to the research results, a high level of creativity is specific to 18% of VyatSU respondents and 20% of KFU respondents. These students are ready to set and solve unconventional problems; to exercise independence in performing creative tasks; they are able to exercise self-control. The majority of respondents have an average level of creativity (73% - VyatSU students and 78% - KFU students correspondingly), which, despite the readiness of students to be creative in the educational process, is accompanied by the difficulties students experience while generating new ideas and solving unconventional problems.

We observed isolated cases (9% - VyatSU and 2% - KFU), when students have a low level of creativity, which means a poor creative activity of students in addressing educational and professional problems, a lack of confidence in their skills abilities and potential.

After conducting a pilot experiment, we developed a model of creative activity enhancement on the basis of creative personality development model (Utemov, Zinovkina, & Gorev, 2019).

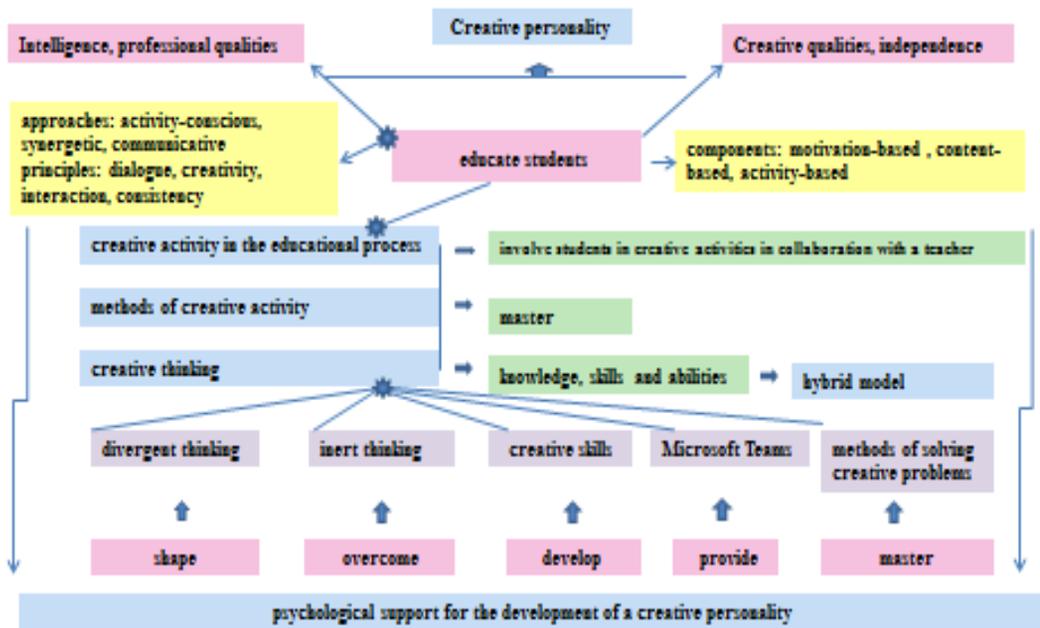


Fig.1. A model of creative activity enhancement in distance learning format

On the model, the structural components reveal the internal organization of the development process of students' creative activity in distance learning format and determine the interaction between these components and elements of this process.

The target section of the model is focused on the development of student teachers' creative activity through a distance learning format by means of the Microsoft Teams platform. For the enhancement of a person's creative activity, it is necessary to develop intelligence, independence, creative qualities, strengthen internal motivation, increase interest in learning, overcoming the barriers of distance.

The methodological section of the presented model includes a set of provisions of the activity-conscious, communicative and synergetic approaches that determine the development of the creative activity of schoolchildren during the pandemic in a distance learning format. Below is the brief description of the approaches.

The activity-conscious approach ensures the inclusion of student teachers in dynamic creative activity, awareness of oneself as a subject in various types of activity and contributes to building an individual trajectory for the development of personal qualities (Vygotsky, 2005; Rubinstein, 2000).

The synergetic approach in the development of student teachers' creative activity consists in targeting students to disclose their own creative abilities, initiative, independence, success; stimulate interest in discovering oneself, constant search for their own path of development for adequate and flexible behavior (Knyazeva, 1988; Vinenko, 2001).

The communicative approach allows to define the pedagogical interaction between students and the teacher. The role of the teacher is to motivate, strengthen the desire to learn more as well as to master communication in a distance learning format (Zimnyaya, 2000; Passov, 1991).

The motivation-based component of creative activity is manifested in the professional and cognitive orientation of the student's personality, in his/her interest in the process of cognition, in the creative attitude to educational and cognitive activity. The content-based component includes the qualities of a person's creative potential: curiosity, self-confidence, striving for independence. The activity-based component includes the need to replenish the system of knowledge, skills and abilities; independence in performing creative work; readiness to create fundamentally new ideas; willingness to formulate and solve non-standard tasks; the ability to exercise self-control.

The implementation of the presented model was carried out and built with reference to the following principles:

- the principle of a dialogue implies the problematic, debatable nature of communication through conversation, Wiki, Microsoft Teams.
- the principle of creativity determines the expansion of one's own experience of creative activity by searching for alternative solutions.
- the principle of consistency assumes that all elements of the model are logically interconnected and correlated with each other; the removal of one of the components leads to the destruction of the system and the violation of its integrity.

Creative thinking can also be developed through a distance learning format if teachers form multi-screen thinking using active teaching methods and students overcome the inertia of thinking and develop creativity; master the methods of solving creative problems that often do not have one correct solution and require alternative evidence.

Active teaching methods in distance learning allow students to develop the following: the ability to discover new knowledge, the appearance of intrinsic motives for learning activity, possession of new personal ways of activity, propensity for improvisation, flexibility, independence, creativity. The examples of techniques that can enhance the creative activity of students are given below: answering teacher's questions, making up 3-5 questions on a scientific article, writing down the terms in the dictionary and giving a definition, making a table, a diagram, a cluster, making a presentation on the basis of the materials given in the article, PJECC (where P is position, J - justification, E - example, C – consequence, C-conclusion), making a detailed plan of a scientific article (or studied information), A "Yes - no" game (on the information studied), note-taking (question-answer form), etc. The authors drew special attention to the following forms of work: creating presentations and video presentations, developing and conducting online quizzes, making a collaborative analysis of the material on a virtual board, composing crossword puzzles, watching and analyzing videos, designing creative assignments on the topics studied.

Psychological support of students is that the teacher helps solve the individual problems of students that may arise during distance learning. We refer to such individual problems as inability to establish contact with fellow students in the absence of visual contact; inability to behave in a network discussion (silence, aggressive behavior, inability to defend one's opinion, to speak succinctly and confidently); difficulties in communicating with the teacher; inability to self-organize and rationally plan independent work with educational materials when solving creative tasks.

Thus, the introduction of the model of creative activity enhancement in distance learning format will allow not only to continue training in the current epidemiological situation, but also to carry out the purposeful development of student teachers' creative activity in order to strengthen the creative attitude, desire for creative knowledge, independence. It is these qualities that are crucial for a modern teacher.

Discussion

The findings of the research prove that student teachers are heterogeneous in terms of the level of creative activity development. Basically, students have an average level of creative activity development, which indicates an insufficient qualitative development of these creative abilities, as well as thinking rigidity (or 'sticky' thinking), poor awareness, limited intellectual development or low motivation.

These students have qualities and opportunities that allow them to create, but due to some barriers, they cannot do it to the utmost. Such barriers can be, for example, fear of failure, fear of social stigmatization. The fear of being stigmatized for practicing new, unusual for others behavior patterns, expressing views or feelings constricts the creative activity of students, lead to the destruction of the creative personality. We note that intrinsic motivation and interest are needed. Creative activity will be high if the activity develops on the initiative of the student (Bogoyavlenskaya, 2002).

Thus, not every creative activity is creativity as such, since in this process there is a forced character. Creative activity is a creative initiative, which is conditioned by the initiative for innovative activity, the desire to realize one's individuality, since an active creative process is a dynamic state of a personality, which becomes an internal need for it". Also, it is worth noting that the majority of respondents starting their studies in a distance learning format do not show independence and initiative in completing tasks; are unable to exercise self-control. Perhaps, at the first stage, it is the teacher who should prepare the students for the upcoming group work that leads them from ignorance to knowledge, from lack of independence to independence and active creative search. This is where the active methods and techniques described by the authors can help. However, in practice, distance learning format is problematic and rather difficult, as far as personal contacts of students with each other and with teachers are minimal, so this form of education is not suitable for trainings, the development of communication skills, self-confidence or teamwork skills. At the same time, surveys have shown that not all students can and want to study remotely, since this format requires high self-organization and self-discipline. It requires favorable conditions at home, such as a separate room, a computer, stable and fast Internet. The usual daily routine breaks down. Independent study requires from students increased perseverance and responsibility, high intrinsic motivation we mentioned above. Therefore, we focus on the fact that, during the pandemic, it is necessary to introduce into the higher education system a model of creative activity enhancement that will make learning more productive and personalized and help students independently perform creative tasks of different complexity, developing personality traits, such as: creative motivation, curiosity, divergent thinking, originality.

Conclusion

The findings of the study are quite convincing, and thus the following conclusions can be drawn:

1. At the present stage of the society advancement, the problem of creative activity development is one of the main pedagogical problems that require profound comprehensive research. Its relevance is contingent on the changes taking place during the pandemic, which entailed the renewal of the higher education system, one of the main goals of which is to enhance students' creative activity.

The creative activity of a student is a complex of personality traits and qualities that are realized in the educational process on the basis of the creative interaction of the teacher and students, which allows students to creatively engage in educational and cognitive activities, to proactively and purposefully master knowledge, to practice self-study, to independently set activity goals, as well as to formulate tasks (problems) and to find unconventional solutions. Creative activity is a complex integral educational process that includes readiness for creative activity (as a certain motivation for creative activity), creative potential (personality traits) and creativity (as the ability to create something new).

2. The creative activity consists of motivation-based component, content-based component and activity-based component, as well as the corresponding criteria and indicators.

3. In the course of the research carried out during the pandemic, the authors faced a number of problems: they conducted the research on-line, and there are certain doubts about the data of the pilot experiment (the average level of creative activity development); they have designed a program for the development of students' creative activity, which contains more than 70 different techniques. However, not all techniques are applicable online (there is a crucial need in high-speed wired Internet and a high level of students' autonomy, that is, a certain level of independence, self-discipline, self-initiative). Therefore, it is necessary to increase the psychological literacy of students; at this stage, the authors can only assume that the use of active teaching methods by teachers will affect changes in the dynamics of students' creative activity - as mentioned above, a high level of student teachers' internal motivation is required.

4. Distance learning education will not completely replace classical full-time offline education; however, most likely, the transition to hybrid learning model will become a commonplace on a large scale, where digital formats will be applied and may take different forms. The use of active forms of learning in a distance learning format will enhance the creative activity of students.

5. The results of the pilot experiment showed the need for further study of this problem. Subsequently, a qualitative analysis of the formative activities is necessary, namely the results of the implementation and testing of the proposed model of creative activity enhancement in distance learning format, the control stage of the experiment and the analysis of the results obtained using the methods of mathematical statistics. The authors believe that it is a long-term fruitful project to introduce in universities for the development of students' creative activity, taking into account the possibility or necessity to transfer to a hybrid learning format.

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