

Specifics of the development of students' creative abilities in the context of higher education

Aspectos específicos del desarrollo de las habilidades creativas de los estudiantes en el contexto de la educación superior

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Summary

This study examines the problems of the development of students' creative abilities, their structure and specifics, similarities and differences from creativity. The aim of the research is theoretical and empirical consideration of the specifics of students' creative abilities and their development. The problems of the essence of creative abilities, the role of their formation in the young age, specific methods and techniques are revealed. The research methodology and its algorithm were selected due to the purpose of the study. Experimental work included a complex psychological and pedagogical experiment, consisting of the indicative, formative and control stages. The study of students' creative abilities was carried out on the basis of the Institute of Foreign Languages of the Federal State Autonomous Educational Institution of Higher Education "The Peoples' Friendship University of Russia" (RUDN). An experimental and a control group were formed, each included 45 people, the sampling is valid for all significant characteristics. The results of the study allow us to conclude that the training forms are especially effective in the development of students' creative abilities. The level of development of the teacher's creative abilities is a significant factor in the formation of students' creative abilities.

Key Words: creative abilities, creative thinking, creativity, creative self-realization.

Resumen

Este estudio examina los problemas del desarrollo de las habilidades creativas de los estudiantes, su estructura y especificidades, similitudes y diferencias con la creatividad. El objetivo de la investigación es la consideración teórica y empírica de los aspectos específicos de las habilidades creativas de los estudiantes y su desarrollo. Se revelan los problemas de la esencia de las habilidades creativas, el papel de su formación en la edad temprana, métodos y técnicas específicas. La metodología de investigación y su algoritmo fueron seleccionados en función del propósito del estudio. El trabajo experimental incluyó un experimento psicológico y pedagógico complejo, que consta de las etapas indicativa, formativa y de control. El estudio de las habilidades creativas de los estudiantes se llevó a cabo sobre la base del Instituto de Lenguas Extranjeras de la Institución Educativa Autónoma de Educación Superior del Estado Federal "Universidad de Rusia para la Amistad de los Pueblos" (RUDN). Se formó un grupo experimental y uno de control, cada uno de los cuales incluyó a 45 personas, el muestreo es válido para todas las características significativas. Los resultados del estudio permiten concluir que las formas de formación son especialmente efectivas en el desarrollo de las habilidades creativas de los estudiantes. El nivel de desarrollo de las habilidades creativas del profesor es un factor significativo en la formación de las habilidades creativas de los estudiantes.

Palabras clave: habilidades creativas, pensamiento creativo, creatividad, autorrealización creativa.

Introducción

In modern society, many previously significant competencies that gave an indisputable competitive advantage (for example, logical thinking, encyclopedic knowledge, etc.) at this stage either do not give it at all, or became much less significant. This is primarily due to the change in the specifics of communications and the development of IT technologies, which made it possible to automatize and simplify many aspects of human life. The only aspect that cannot be automated for the foreseeable future is creativity.

For this reason, the development of creative abilities is extremely important, especially among the younger generation. Creative abilities can determine and influence the future professional performance of students. The development of creative abilities is of particular importance at the period of professional training, since the students are expected to achieve better personal and professional results in the very near future.

It is important to note that permanence and continuity are key conditions for optimal development of abilities. Therefore, it is extremely important to organize the educational environment for students taking into account particular conditions and selection of effective methods and techniques, which would have the maximum developmental potential. It is necessary to ensure that each segment of the given environment (educational, family, etc.) meets the developmental goals. This dictates the need for psychological and pedagogical support of the process of forming creative abilities, both by the psychological service of the higher educational institution (primarily at the conceptual and methodological levels), and by individual teachers in the context of specific implementation.

Thus, the specifics of the development of students' creative abilities is an extremely relevant area of theoretical and applied research.

Literature review

Before considering the specific features of the creative abilities development, it is necessary to identify their essence. The most exaggerated definition of creativity is divergent thinking. This approach is convenient because divergent thinking is easy to identify and diagnose (Gorev et al., 2018). Divergent thinking differs from convergent thinking. In its essence, it can be non-linear and non-standard, thereby making it possible to obtain non-standard and original ideas. This method of thinking, from the point of view of J. P. Guilford, is especially effective in the situations of uncertainty or limited initial data (Gatanov, 1998). Based on the concept of divergent thinking, creative abilities are considered in parallel with the general and special ones and have their own localization and direction, while being part of the cognitive abilities. Later, J. P. Guilford's approach was developed within the framework of E.P. Torrance's concept of creativity, which supposed that creativity takes place in the process of perceiving difficulties, problems, gaps in information, missing elements, disharmony, etc. (Kaloshina, 1983).

At the current moment, despite criticism from both Russian and foreign researchers, the approach and methods of diagnosing creative abilities known as the Torrance Test of Creative Thinking (TTCT) became one of the most widely used measures of creativity (Martishina, 2006).

It should be noted that creativity is largely identical to the concept of creative abilities. In academia this phenomenon is often understood as the diagnosed and formalized creative abilities (Bírová et al., 2018).

The concept of creative abilities should only be considered within the framework of a systemic approach, focused not only on the combination of cognitive and motivational-behavioral traits, but also on the socio-cultural environment of the individual. Analyzing creative abilities, it is necessary to take into account the influence of both internal and external determinants. Therefore, it is necessary to study not only the creative abilities explicitly, but also the parameters closely related to them.

In our research, we paid attention to the specifics of the creative abilities development. The following elements play the most important role in the development of students' creative abilities (Kipnis, 2005; Tekucheva, Gromova, 2016):

- a high level of simple and complex types of cognitive operations;
- a high level of functional, critical and abstract thinking;
- a high level of organization and focus of cognitive operations.

These elements are the foundation for the development of creativity at a young age. It should be noted that for their implementation, only the student's activity is not enough, the implementation of the third element (organization and focus of cognitive operations) implies the teacher's activity.

Thus, in addition to the psychological support of students, another key area of the psychological service of the university is the psychological support of the teachers, the optimization of the work of the teaching and administrative staff, and the provision of innovative activities of the educational institution. The development of the described elements of intellectual activity is possible only in the case of sufficient level of these elements among university teachers. For the successful development of students' creative abilities, appropriate pedagogical technologies are needed.

Analysis of theoretical and practical research works (Vostroknutov, Razuvaev, 2012; Terelyanskaya, 2012; Kozyreva, 1994; Vasbieva et al., 2018; Sharonova, Trubnikova, Sokolova, 2018; Volkova, Panchenko, 2018; Dolzhich, Dmitrichenkova, 2018; Blinova, Dugina, Zabolotskikh, 2018; Clarin, 2004) showed that the development of students' creative abilities should be based on their individual and age-related abilities, in particular, taking into account the leading activities at this stage of age development. It should be borne in mind that educational activity is not leading at this age, which implies a higher entry threshold, both from the point of view of motivation and the time spent by students and teachers (the maximum result is required in the minimum time). That is why gamification of the creative abilities development, the combination of game forms with practically oriented tasks is optimal.

Proposed methodology

The study of students' creative abilities was carried out on the basis of the Institute of Foreign Languages of the Federal State Autonomous Educational Institution of Higher Education "The Peoples' Friendship University of Russia" (RUDN). An experimental and a control group were formed, each included 45 people, the sampling is valid for all significant characteristics.

In order to determine the tasks and the specific content of the program for the formation of students' creative abilities, a complex psycho-diagnostics was carried out at the indicative stage of the experimental study. At the control stage, re-diagnostics was carried out in order to analyze the effectiveness of the program. A comprehensive psycho-diagnostics of the teaching staff and the creative abilities of students was implemented. The methods used were reduced to a single measurement scale from 1 to 100, where 1-35 is a low level, 35-70 is a medium level, 70-100 is a high level. The stability of the parameters scaled from 0 to 1, the measurement scale is similar to the previous one.

Diagnostics of creative abilities was carried out using the All-ages Creativity Tests by E.P. Torrance. Diagnostic tools applied to teachers are presented in Table 1.

Table 1

Diagnostic research tools

The methods applied
Questionnaire "The need for psychological education"
Self-development ability identification questionnaire
Test "Assessment of self-control in communication"
Test "Teacher's Ability for Empathy"
Diagnostics of professional burnout
Self-assessment of personality tolerance
Formation of positive group motivation
Diagnostics of personality motivation to success

Diagnosics of emotional burnout
Assessment of the level of the teacher's innovative potential and readiness for activity
Diagnosics of creative thinking "All-ages creativity test"

These parameters taken in the aggregate represent the factors that determine the effectiveness of teaching in the university. The confluence of factors was selected on the basis of a number of empirical studies confirming their importance as indicators of the pedagogical performance effectiveness (Terelyanskaya, Kurysheva, 2012; Ignatova, 2000; Zinovkina, 1999); Zhirkova, 2008). The factors are differentiated into:

- personal aspect;
- emotional-volitional aspect;
- preparedness for pedagogical performance.

The combination of the above factors correlates with the key competencies of a teacher and represents the most significant determinants of educational activities in the context of the development of students' abilities, in particular, creative abilities (Leontiev, 2011). Together with the creative abilities of teachers, these factors have the most significant impact on the state and dynamics of changes in students' creative abilities.

The algorithm of the experiment is presented in Table 2 and represents a standard psychological and pedagogical study of the indicated parameters with an assessment of their level after external influences.

Table 2

Algorithm of actions in the course of the experiment

Algorithm of actions
1) indicative stage
2) formative stage
3) control stage

Result analysis

We analyzed the main results obtained in the course of experimental research, with particular attention to the results of the control stage.

The results of the factor analysis of the data obtained during the indicative stage of the experimental study allowed us to conclude that the development of creative abilities is influenced by the level of teachers' creative abilities and the effectiveness of pedagogical performance.

Taken together, the factors explained more than 90% of the variance, whereas the creative abilities of the teacher explained 56.8%, and the factors of the effectiveness of pedagogical activity 37.2%. This confirms the validity of the selected diagnostic tools and the research results. It is important to note that the factors under consideration influence both the state of students' creative abilities and the dynamics of their changes.

At the indicative stage, there was mainly a medium level of development of the declared parameters, both among teachers and among students.

At the formative stage, a program for the development of students' creative abilities was introduced and implemented. The content of the program was determined by the empirical premises established in the course of the experimental study. In particular:

- factor analysis demonstrates that there are two key factors affecting the development of students' creative abilities, namely the development of teachers' creative abilities and factors of the effectiveness of pedagogical performance. Taken together, the factors explain more than 90% of the variance.

- the level of the teacher's creative abilities development has a significant impact on the state and dynamics of changes in the creative abilities of students. Statistical analysis confirmed that the formation of students' creative abilities was effective only in the case of a high level of teachers' creative abilities.

- the role of the psychological service is not only in the psychological support of teachers, but also in creating conditions for their improvement, both professionally and personally. This will ensure a high level of teachers' creative abilities and optimization of the factors influencing on the effectiveness of pedagogical performance.

The proposed program is aimed at developing the creative abilities and professionalism of teachers, providing conditions for optimizing the educational process, increasing their motivation. The main component of the program is training sessions for the teaching staff and organizational measures aimed at the maximum involvement of teachers, parents and students in the process of creative development of the latter.

Comparative analysis of the data of the indicative and control stages is presented in Table 3.

Table 3

Comparative analysis of data at the indicative and control stages of the experimental study

Parameter	Indicative stage		Control stage	
	Indicator	Stability level	Indicator	Stability level
The Level of creative abilities of students and teachers				
Creative abilities of students	56.3	0.6	72.8	0.7
Creative abilities of teachers	61.2	0.6	76.2	0.8
Personal aspect of professional competence				
Self-development ability	56.2	0.5	75.2	0.6
Self-control in communication	68.3	0.6	79.3	0.6
The ability of a teacher to empathy	71.25	0.5	76.7	0.6
Self-assessment of personality tolerance	80.8	0.7	85.4	0.7
Motivation to group activities	53.6	0.5	79.1	0.6
Motivation to success	52.1	0.5	73.1	0.6
Emotional and volitional aspect of professional competency				
The level of professional burnout	22.9	0.3	49.8	0.5

The level of emotional burnout	38.5	0.4	47.2	0.6
The teacher's readiness for professional activity				
Assessment of the level of a teacher's innovative potential	61.7	0.6	83.7	0.7
Assessment of readiness for teaching	71.6	0.6	81.4	0.7
The intrinsic demand for psychological education	71.9	0.6	78.3	0.7

Analysis of the data obtained at the control stage of the experimental study proved that the process of developing students' creative abilities has become more effective. A comparative analysis of the diagnostics results of the teachers' creative abilities, as well as factors of the effectiveness of pedagogical performance, confirmed that, in comparison with the indicative stage, the parameters have significantly increased. This made it possible to optimize the process of developing students' creative abilities and achieve greater proficiency. The experimental study proved the correctness of the hypothesis put forward, as well as the effectiveness of the program to optimize the work of the psychological service of the university.

Conclusion

For the optimal development of students' creative abilities, a high level of the teacher's creative abilities is required. In the case of a medium level the influence of the parameter under consideration is contradictory and can adversely affect the dynamics of changes. This could be explained by the suboptimal choice of templates for originality and functionality of a student's creative abilities. It is important to clarify that creativity can be formed both as a stable aggregate quality and as an unstable one. Therefore, the templates of originality and functionality should correlate with each other, otherwise the results of creative activity will either be devoid of novelty or not compatible with reality.

In order for a university teacher to be well-prepared for the process of developing students' creative abilities, it is necessary to provide conditions for the efficient educational performance, self-improvement and realization of professional potential, to maximize motivation.

This requires the psychological service to constantly monitor the activities of teachers, to create conditions for their professional development. Also, it is important to remember about the importance of interaction between participants in the educational process, the creation of a unified environment for the development of students. Therefore, the content of the program for optimizing the work of the psychological service includes both the updating of guidance materials, the organization of the service activities, monitoring of students and teachers, the specifics of the psychological work with parents, and the intensification of work with teachers, which are the most important link in the development of students' creative abilities.

In this context, the most effective form of work is trainings aimed at developing creativity, the effectiveness of pedagogical performance and increasing motivation.

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Authors' contribution: The authors have participated in the research process, in the writing of the work and in the analysis of the documents.

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