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DEVELOPMENT OF THE COGNITIVE ASPECT OF CREATIVITY IN ADOLESCENTS THROUGH GROUP PSYCHOLOGICAL TRAINING

The study addresses the problem of developing creativity in adolescence as a crucial factor in modern education and personal growth. The relevance of the research is determined by the reform of the educational system in Ukraine, which emphasizes the importance of innovative thinking, flexibility, and the ability to find non-standard solutions in professional and social activities. Creativity is conceptualized as an integrative personal characteristic that enables the overcoming of stereotypes, the transformation of reality, and the generation of original ideas. Particular attention is paid to the cognitive component of creativity, which includes divergent thinking, originality, and the ability to restructure cognitive barriers.

The theoretical foundation of the study combines a systemic approach with well-known psychological theories: Erikson's concept of psychosocial development, V.O. Molyako's concept of personality creativity, Torrance's structural-dynamic theory of intelligence, and the theories of creative cognition by R.A. Finke, T.B. Ward, and S.M. Smith. Based on this framework, the purpose of the article is to theoretically and experimentally justify the use of group psychological training as an effective tool for the development of the cognitive aspect of creativity in youth.

The methodological base included a formative experiment with 30 participants (15 in the experimental group and 15 in the control group), a specially designed training program, and a set of diagnostic tools: the Self-Assessment Scale of Innovative Qualities of Personality (Lebedeva, Tatarko), the Thinking and Creativity Type Questionnaire (Bruner, adapted by Rezapkina), and the Analytic-Holistic Scale (Choi, Koo, Choi). The training program was structured into three modules: self-reflection and value-based self-attitude, overcoming barriers to creativity, and creative self-realization.

The results demonstrate that group psychological training leads to statistically significant improvements in creative thinking, innovative potential, problem-solving abilities, and holistic cognitive processing. Participants of the experimental group reported increased confidence in creative expression, greater openness to novelty, and stronger motivation for self-realization. Importantly, group dynamics served as the main catalyst of change, providing a safe space for experimentation, social reinforcement, and mutual learning.

The findings confirm that group psychological training is a highly effective method of developing the cognitive component of creativity in adolescence. It not only strengthens individual skills but also transforms the very style of thinking toward greater flexibility, originality, and openness to experience, thereby contributing to both personal and social development of youth.

Key words: creativity, adolescence, cognitive component, group psychological training, innovation, holistic thinking, personal development.

Problem statement. The relevance of researching the structural components of creativity in young people is growing significantly in connection with the reform of the education system in modern Ukraine. In recent years, particular attention has been paid to the role of creative prerequisites in the educational and professional activities of young men and women. The development of creative thinking contributes to the activation of the adaptive reserves of young people, more expressive planning of strategies for self-determination in life, effective socialization of pupils and students in a group, the development of cognitive

processes, self-reflection, and much more.

Research into methods of psychological activation of creative thinking is based on a systematic approach, the concept of psychosocial development (E. Erikson), the concept of personality creativity by V.O. Molyako, Torrance's structural-dynamic theory of intelligence, and the theories of creative cognition by R.A. Fenke, T.B. Ward, and S.M. Smith as a theoretical and methodological basis for the formation of innovative thinking skills. The development of the cognitive component of creativity in young men and women is considered by scientists on the basis of studying the current resources and barriers to creative thinking.

At the same time, the issue of developing the cognitive component of creativity has not been sufficiently explored until recently, therefore, it makes scientific sense to purposefully study the cognitive characteristics of creativity as a factor in the development of adolescent personality, to reveal the nature and conditions of the formation of the cognitive component of creative abilities of young men and women by means of group psychotherapy.

Analysis of recent studies and publications. Creativity is defined as one of the leading factors in the development of adolescent personality and manifests itself in search and transformative activity, in overcoming behavioral stereotypes, in breaking the monotony of encounters with reality, in its productive transformation, in the creation of new objects, etc. [3]. Developing in activity and combining with leading motives, creativity is functionally fixed in the structure of the personality and manifests itself as the ability to productively change and create something qualitatively new. Creativity, on the one hand, develops and is formed depending on the characteristics and conditions of the creative process (as an objective determinant), and on the other hand, is realized in it and represents its motivational and need-based foundation (as a subjective determinant of creativity) [1; 4]. It also manifests itself at the unconscious (orientational-adaptive) and conscious (cognitive-transformative, exploratory) levels of individual activity and social-role behavior [3].

The purpose of the article is to provide theoretical and experimental justification for the use of group psychological training in the development of the cognitive aspect of creativity in adolescents.

Methods and techniques: formative experiment; group psychological training; survey: Scale for self-assessment of innovative qualities of personality (N.M. Lebedeva, A.N. Tatarko), Questionnaire "Type of thinking and type of creativity by J. Bruner, adapted by G.V. Rezapkina," AHS questionnaire (Choi, Koo and Choi, Analytic-holistic scale); methods of mathematical statistics.

Presentation of the main material. Group psychological training is an effective tool for developing creativity in adolescence, as it corresponds to age characteristics, the power of group dynamics, and the cognitive aspect in the social dynamics of group processes. Adolescence is a period of active search for identity, formation of the “I-concept” and the need for social acceptance. Interaction, feedback, support, and healthy confrontation within the group become a powerful catalyst for change that cannot be replicated in individual work [5].

Cognitive creativity (idea generation, flexibility of thinking, originality) does not develop in a vacuum, but in a social environment, and the group is a source of “cognitive stimulus” (other points of view) and “social reinforcement” (approval of new models of behavior).

Theoretical analysis of the problem determined the choice of methods for the stages of the group psychological creativity training program:

Stage 1: Reflection on the self. Formation of a positive emotional and value-based self-attitude. For this stage, we proposed interactive exercises for getting acquainted, group rules, active listening techniques, metaphorical exercises, and keeping personal diaries/training notebooks. In their research, Harada, H., Khalil, R., Chen, C., & Matsushita, M. [4] emphasize that cognitive creativity requires openness to experience. The safe atmosphere and trust created at this stage remove cognitive barriers (fear of judgment, desire to be “like everyone else”). Reflection promotes awareness of one's own thought patterns - the first step toward changing them.

This stage forms a “we-feeling.” The group ceases to be a collection of strangers and becomes a “social laboratory”. Participants see that others have similar needs and doubts, which reduces feelings of loneliness and creates collective security.

Stage 2: Constructive mastery of creativity barriers. At this stage, we suggest using brainstorming methods with analysis of its progress, discussion of cognitive distortions (“it's impossible,” “it's a stupid idea”), Gestalt techniques for working with polarities, techniques for overcoming fear of failure (e.g., “failure as a resource”). This stage involves direct work with cognitive barriers: stereotyping (thinking in clichés), excessive self-criticism, rigidity (inability to change one's point of view) [3]. The main methods used are aimed at recognizing these automatic thoughts and their cognitive restructuring [5].

The group acts as a “mirror” of social and intellectual processes. Participants see that their barriers are not unique, that other young men and women overcome familiar obstacles. This normalizes the experience and

makes the problem solvable. During brainstorming or discussion, the group generates significantly more ideas and ways to overcome barriers than one person alone. Participants borrow cognitive strategies from others and see from their example how to think differently. The support of the group gives them the courage to experiment.

Stage 3: Creative self-realization. This stage involves complex exercises and projects (e.g., creating an exhibition together, developing a model for implementing the Seasons project), divergent thinking techniques (TVBZ, synectics), metaphorical thinking, and keeping a "creative achievements diary." This is the stage of applying and integrating new cognitive skills. Participants do not just generate ideas, but embody them in the form of a project, developing convergent thinking and metacognition - the ability to consciously control one's own thought process: "How did I come up with this idea? What barriers did I overcome?" At this stage, the group achieves the highest level of cohesion and functions as a "supportive testing ground for self-realization." Group approval of original ideas and decisions from the group (social reinforcement) makes them more valuable to the participant, increasing their self-efficacy ("I can be creative, and it is appreciated"). At the same time, the group provides diverse, multifaceted feedback that develops critical thinking and the ability to constructively accept criticism. The group allows the strengths of different members to be utilized. One generates incredible ideas, another finds practical applications for them, and a third presents them creatively. This expands the cognitive abilities of each individual participant.

The structure of the social-psychological training program for the development of creativity in adolescents is presented in Table 1.

Table 1.

Structure of creativity training for young people

Modules	**Module objectives**	**Techniques, psychogymnastic exercises, methods**	**Number of hours**
1	2	3	4
1. Reflection on the self, forming a positive emotional and value-based attitude toward oneself	Introduction. Creating a working atmosphere. Development of reflection skills. Clarification of the real needs and current feelings of young people. Development of creative thinking skills: idea generation, reflection, and critical thinking regarding feedback.	Introduction. "Virivanky," "The Story of a Name." Working with external polarities ("The Blind Man and the Guide" and "The Empty Chair," "The Toy," "The Self Through the Eyes of Others," "The Mirror," etc.). Integration.	6
2. Constructive mastery of creativity barriers	Awareness of barriers to creative activity, mastery of internal barriers, support for experimentation.	Actualization of barriers to creative activity through role-playing. Working with internal polarities (Gestalt method). Integration.	6
3. Creative self-realization (mobilization of creative resources; introspection; self-acceptance; compensation in creativity).	Research into manifestations of creativity and self-realization; development of emotional regulation and self-regulation skills in independent decision-making, development of self-esteem.	Formulating problems and working with polarities ("Choreography of Letters," "Islands," "Secrets of the Soul," "Double References," "Goals," "Seasons," "Apple," etc.). Psychodrawing "Creative Self." Integration.	3

Thirty young men and women participated in the formative experiment, with 15 people in each of the experimental and control groups. All samples were balanced in terms of creativity (D. Renzulli questionnaire). Classes were held for 5 days, 3 hours each.

Based on the results of participating in the creativity training, the participants in the experimental group noted that in order to express themselves in a creative way, in addition to being involved in solving intellectual tasks, there is a need to develop self-confidence, allow for free self-expression, changing rigid attitudes towards the only correct solution, and understanding one's own life position, which will include an important role for creativity and exploratory experimentation with situations of uncertainty or novelty.

High scores for overall creativity on the D. Renzulli questionnaire during the ascertaining experiment showed the relevance and appropriateness of the creative activities of young men and women to their need for self-knowledge and self-realization. Therefore, to analyze the effectiveness of the training program, we chose the scale of self-assessment of innovative qualities of personality (N.M. Lebedeva, A.N. Tatarko), the questionnaire "Type of thinking and type of creativity by J. Bruner, adapted by G.V. Rezapkina", and the AHS questionnaire (Choi, Koo, and Choi, Analytic-holistic scale), which enable a qualitative and differentiated analysis of changes.

The indicators of changes in the manifestations of innovative potential (the self-assessment scale of innovative qualities of personality (N.M. Lebedeva, A.N. Tatarko) based on the results of the formative experiment are shown in Fig. 1.

A comparative analysis of the results according to the parameters of the questionnaire on the innovative potential of adolescents showed that the results of the control group remained stable and did not change over time, while the indicators of innovation in the experimental group increased significantly. It should be noted in particular that the indicators of creativity ($G=0$, $p<0.01$) and the index of innovative potential ($G=0$, $p<0.01$) increased.

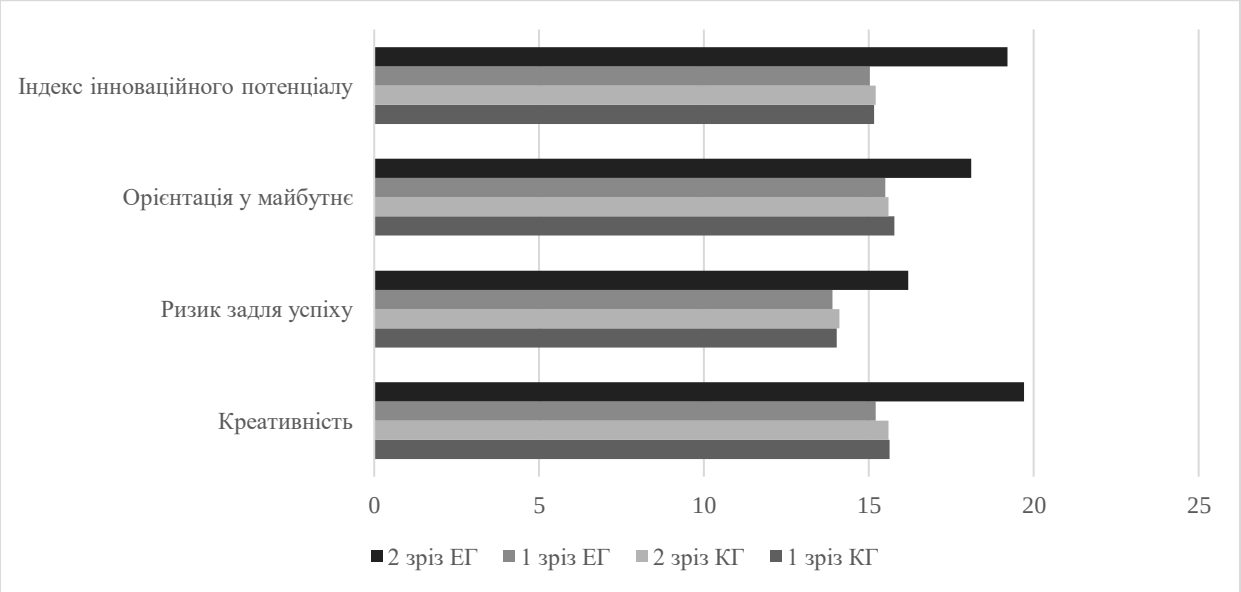

Fig. 1 Comparative analysis of average indicators of innovative potential parameters of the control and experimental groups of the formative experiment

Note: CG – control group (n1=15); EG – experimental group (n2=15); critical values of the sign criterion: G=3 ($p<0.05$) and G=2 ($p<0.01$) for sample size n =15.

In our opinion, the involvement of training participants in situations of uncertainty or novelty, their successful collective solution, and the satisfaction they experienced from the results achieved developed the confidence of young men and women in their own abilities; they overcame the barriers of social criticism and fear of failure in performing tasks. The participants developed the ability to switch their attention from the stage of team idea generation to a consistent and qualitative analysis of a range of solutions. The training participants noted that they had become more confident in freely and creatively expressing their thoughts, feelings, and beliefs, and had become more motivated and focused in completing assignments and projects. They developed a desire to be independent, strive to achieve their goals, and fulfill themselves in a creative profession.

The unique ways in which the young men and women in the experimental group solved tasks and problem situations in the training are manifestations of the development of creative thinking. Figure 2 shows

the results of the formative experiment using the questionnaire "J. Bruner's Type of Thinking and Type of Creativity, adapted by G.V. Rezapkina".

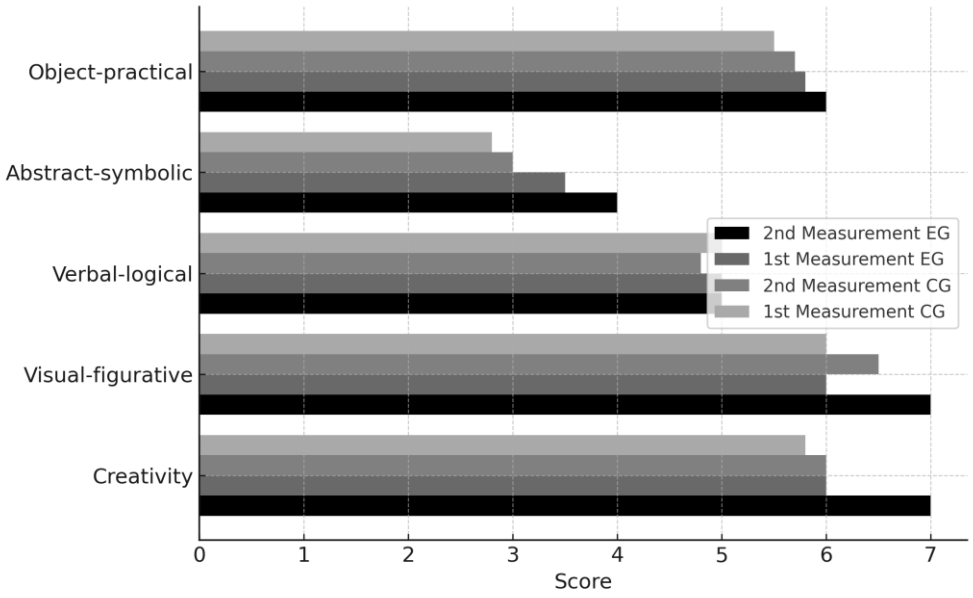

Fig. 2. Comparative analysis of average indicators of thinking types in the control and experimental groups of the formative experiment

Note: CG – control group (n1=15); EG – experimental group (n2=15).

The results of the study show that the boys and girls in the control group demonstrate statistically unchanged results in the repeated cross-section, while the participants in the experimental group demonstrated the use of diverse resources of creative and intellectual activity in solving problem situations: visual representation and visualization (a pronounced visual-figurative type of thinking in 88,7% of respondents, which is 10% higher than at the initial stage), creative transformation (creative thinking in 79,3% of young men and women, which is 15% higher than at the initial stage), etc. The indicators of abstract-symbolic thinking in the participants of the experimental group increased by 12%, which indicates an increase in the concentration of participants' attention on important, essential aspects of the subject or phenomenon and, as a result, productive abstraction and symbolic generalization, which is the result of this distraction.

The participation of young men and women in the training program demonstrated the effective influence of creative activity and research-transformation activities in solving problematic situations on the development of creative and abstract-symbolic thinking. Thanks to the mechanism of symbolization, young people develop the ability to comprehend phenomena outside of a given situation, creating abstract mental content onto which young men and women project their ability to represent.

According to the results of a repeat survey of participants in the control and experimental groups using the AHS questionnaire (Choi, Koo, and Choi, Analytic-holistic scale), no statistically significant changes in the parameters of cognitive style of personality were found in young men and women in the control group. However, following the implementation of creativity training, the indicators of holistic cognitive thinking in the experimental group increased by 14% (55.32% of respondents), which indicates an increase in cognitive skills for assessing the holistic nature of a situation, as well as an expansion of the possibility of intuitive decision-making in situations of information scarcity or novelty, high speed of mental processes with a low level of their awareness. The generalized results are presented in Fig. 3.

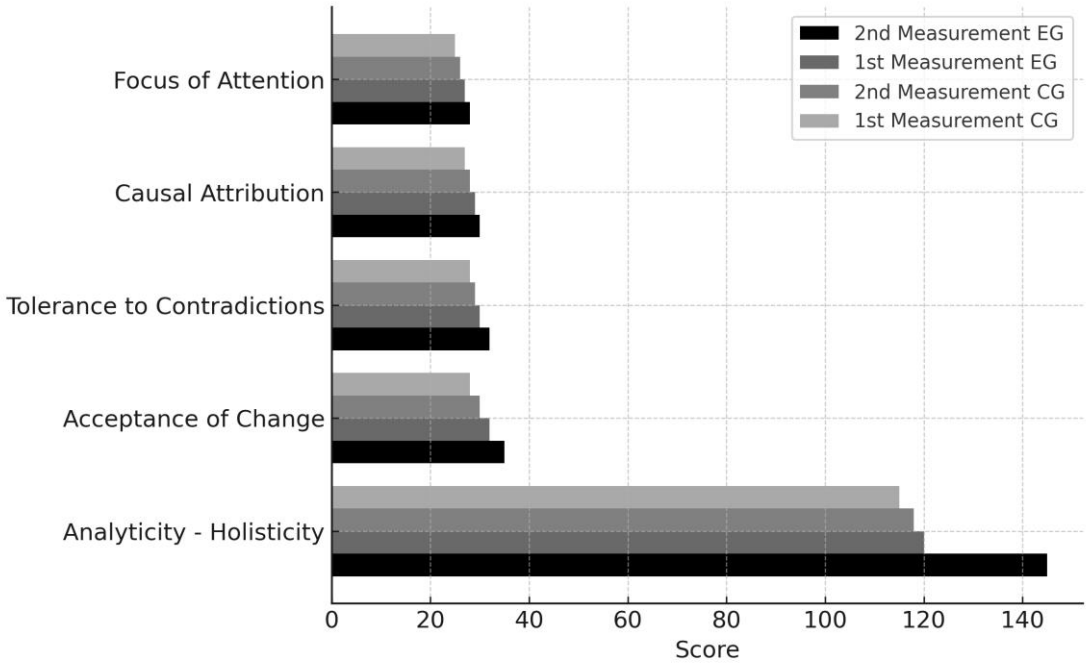

Fig. 3. Comparative analysis of cognitive styles of boys and girls in the experimental (EG) and control (CG) groups

Note: CG – control group (n1=15); EG – experimental group (n2=15).

The increase in holism indicators in the focus of attention and causal attribution of boys and girls indicates an increase in the sensitivity of training participants to the study of contradictions in problematic situations or tasks and manifestations of flexibility in the perception of change. They view objects and phenomena as non-static and expect that, due to complex patterns of interaction between elements, they will find a state of constant change.

Analytical/holistic thinking are not discrete poles reflecting different styles of thinking, but rather a non-disjunctive continuum within which one can speak of unequal "specific weights" of subjects' propensity to use analytical and holistic ways of thinking. (Choi et al., 2019) [5]. The creative process involves the use of both cognitive styles of information processing. In particular, at the stage of studying a problem situation and verifying a solution, the analytical skills of young men and women are important. At the stage of generating ideas and creating an original image, holistic properties are important. Analysis through synthesis enables young men and women to predict both the creative result and the creative nature of mental activity. In the process of its implementation, the object of cognition begins to manifest itself in new properties and qualities. The holistic synthesis of young people's creative thinking manifests itself in the expansion of the holistic context of the problem, in which they see a recognizable object in new connections and relationships. In the mental process of analysis through synthesis, the object is mentally included in various systems of connections and reveals different qualities in them. Interacting with the object, the subject "exhausts" more and more new content from it, expanding the idea of an objective picture of the world.

Conclusions. The use of group psychological training technology allows achieving positive changes in the development of the cognitive component of creativity in adolescents, and the proposed training structure holistically and consistently uses the potential of group dynamics to directly influence the cognitive structures of adolescents, developing not only individual skills, but also transforming the very way of thinking towards greater flexibility, originality, and openness.

Group dynamics not only accompany training, but are its driving force and the main mechanism for achieving the goals of psychological training. They provide a safe space for cognitive risk, create conditions for social modeling, multiple reinforcement of ideas, and rapid and multifaceted consolidation. Positive changes in thinking are reinforced not only by the trainer but also by the peer group, which makes them much more sustainable. After the training, all key parameters of cognitive creativity improved significantly among young men and women: innovative potential, problem-solving thinking, and holistic information processing, as well as increased motivation for creative self-realization and confidence in social contacts.

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