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METHODOLOGY FOR DEVELOPING CREATIVE COMPETENCIES IN PRESCHOOL CHILDREN

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Abstract

The development of creative competencies in preschool children is an important task of modern early childhood education. Preschool age is a crucial period for developing imagination, curiosity, communication, and independent thinking. This article analyzes theoretical and methodological approaches to creativity development based on research on play-based learning, STEAM education, project-based learning, and child-centered pedagogy. Creative competence is considered as a combination of imagination, originality, flexibility, problem-solving, communication, and the ability to create new ideas. The study identifies key methodological components, including a supportive creative environment, imaginative play, problem-based activities, STEAM integration, and teacher guidance. The results emphasize that child-centered, culturally responsive, and age-appropriate approaches provide effective conditions for developing preschool children's creative competencies.

Keywords: Preschool education, creative competence, creativity, creative thinking, imagination, early childhood education, play-based learning, STEAM education, child-centered pedagogy, project-based learning, pedagogical methodology.



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Introduction

Contemporary education increasingly emphasizes the need to develop competencies that enable individuals to act independently in changing and unpredictable situations. Knowledge remains essential; however, the ability to use knowledge creatively, establish new connections between previously learned ideas, formulate questions, test alternative solutions, and cooperate with others is becoming equally important. This tendency has increased interest in the development of creativity from the earliest stages of education.

Early childhood is a particularly important developmental period because cognitive, emotional, social, linguistic, and motor processes are rapidly developing and interacting with one another. Research on early childhood development demonstrates that experiences during the first years of life contribute substantially to children's subsequent development and learning [2]. Consequently, preschool education should not be limited to preparing children to reproduce predetermined information or follow instructions. It should also provide opportunities for discovery, imagination, independent choice, experimentation, and the creation of personally meaningful ideas.

The theoretical foundations of children's creativity were significantly influenced by L. S. Vygotsky. Vygotsky distinguished reproductive activity, which reproduces previous experience, from creative activity, which recombines elements of experience in new ways. He considered imagination and creativity to be observable from early childhood and particularly evident in children's play [1]. This understanding remains important because it shows that creativity is not an exceptional quality possessed only by gifted individuals. At the preschool level, creativity can be observed whenever a child modifies an object, invents a storyline, proposes an unusual solution, transforms the meaning of a familiar item, or combines experience in a new form.



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Play provides one of the most natural contexts for such transformations. In imaginative play, for example, an ordinary box may become a car, a house, a shop, or a spaceship. A child who creates such symbolic transformations does more than imitate reality; the child reorganizes available experience and produces a new meaning. Thus, play simultaneously involves imagination, communication, decision-making, flexible thinking, and emotional expression [1].

International approaches to early childhood education also recognize play and active exploration as fundamental components of development. The UNICEF and LEGO Foundation report on learning through play stresses the importance of playful learning for children's cognitive, social, emotional, and physical development [3]. Similarly, the National Association for the Education of Young Children defines developmentally appropriate practice as an approach that supports children's optimal development through strengths-based, play-based, joyful, and engaged learning [4].

These principles have important methodological implications. If creativity is expected to develop, the educational process cannot be dominated exclusively by reproductive tasks with only one predetermined correct answer. Children need tasks that allow several possible solutions, opportunities to make decisions, access to diverse materials, time for independent exploration, and a social environment in which unusual ideas are accepted rather than immediately corrected.

Within this article, **creative competence** is interpreted more broadly than artistic talent. It includes a preschool child's ability to generate and express ideas, use imagination, find alternative solutions, transform familiar objects or situations, participate in collaborative creation, demonstrate initiative, and apply previous experience in a new context. Accordingly, a child may display creative competence while drawing, constructing, telling a story, role-playing, solving a



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practical problem, experimenting with natural materials, creating music, or participating in a STEAM project.

The concept of creative competence also emphasizes that creativity is not an isolated cognitive process. It includes motivational, emotional, communicative, and behavioral dimensions. A child may have an original idea but may not express it if the environment is excessively critical. Another child may demonstrate strong imagination in free play but experience difficulty during rigidly structured activities. Therefore, developing creativity requires attention not only to tasks but also to the emotional climate of the classroom, teacher-child interaction, peer relationships, materials, time, and assessment practices.

The growing use of STEAM education in preschool settings has expanded opportunities for creativity development. STEAM integrates science, technology, engineering, arts, and mathematics and often encourages children to investigate a problem, design something, test ideas, and improve their solution. Studies of integrated STEM and STEAM approaches indicate that young children can participate meaningfully in age-appropriate inquiry and construction activities [6]. Recent research has also examined STEAM projects specifically in relation to creative thinking in early childhood [8; 9; 11].

At the same time, the presence of innovative methods does not automatically guarantee creativity. Research involving preschool teachers indicates that educators may experience difficulties in integrating creativity into STEM education because of insufficient methodological preparation, limited content knowledge, lack of teaching materials, or uncertainty about how to evaluate children's creative activity [7]. Thus, the development of creative competence requires a systematic methodology rather than the occasional use of entertaining activities.



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The relevance of the present study is therefore determined by the need to integrate theoretical knowledge about children's creativity with practical principles that preschool teachers can use in everyday educational settings. The article seeks to provide such a framework through a synthesis of established developmental theory and recent research on play-based, STEAM-oriented, child-centered, and project-based preschool education.

Research Objectives

Research Objectives (shortened)

The main objective of this study is to develop a theoretical and methodological framework for forming creative competencies in preschool children.

The study aims to:

- define the concept and components of creative competence;
- analyze modern approaches to creativity development in early childhood education;
- identify pedagogical conditions that support imagination, initiative, flexibility, and problem-solving;
- examine the role of play, artistic activities, project-based learning, and STEAM education;
- determine the teacher's role in creating a creative learning environment;
- develop practical recommendations and assessment indicators for preschool educators.

The central research question is:

What pedagogical conditions and methods effectively support the development of creative competencies in preschool children through child-centered and age-appropriate approaches?



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Methods (shortened)

Research Design

The study uses a theoretical research design based on a narrative review and conceptual analysis of literature related to preschool creativity, play-based learning, STEAM education, project-based learning, and child-centered pedagogy.

The research does not include an experimental intervention; therefore, the findings are based on comparative analysis and synthesis of existing theoretical and empirical studies.

Literature Selection and Analysis

The study analyzes key theories of childhood creativity, including Vygotsky's concept of imagination and creativity [1], as well as contemporary research on early childhood development, playful learning, and developmentally appropriate practice [2; 3; 4]. Studies on STEM/STEAM education were also examined to identify approaches that support creativity, experimentation, and problem-solving [6–11].

The analysis focused on:

- creative competence and its components;
- the role of play and imagination;
- learning environment and teacher-child interaction;
- project-based and STEAM activities;
- assessment approaches and challenges in creativity development.

Methodological Principles

The proposed methodology is based on the following principles:

Developmental appropriateness: activities should match children's age, abilities, and interests [4].



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Child-centered learning: children should have opportunities to choose, create, and make decisions.

Activity-based learning: creativity develops through exploration, experimentation, construction, and communication.

Variability: tasks should allow multiple solutions and creative outcomes.

Emotional safety: children should freely express ideas without fear of mistakes.

Integration: creativity should be developed across different areas, including language, science, art, mathematics, and play.

Reflection: children should discuss their ideas, experiences, and possible improvements.

Results

Creative competence in preschool children is an integrated system that includes cognitive, imaginative, motivational, emotional, communicative, and practical components. It involves generating ideas, imagination, curiosity, independence, problem-solving, cooperation, and transforming ideas into creative products.

A supportive creative environment plays an important role in children's creativity development. Open-ended materials, flexible activities, and opportunities for exploration allow children to create different solutions and express individual ideas.

Play is one of the main mechanisms for developing creativity. Role play, construction activities, storytelling, and outdoor exploration stimulate imagination, symbolic thinking, experimentation, and problem-solving skills.

Creative development is supported by open-ended questions, artistic activities, project-based learning, and STEAM education. These approaches encourage children to explore, experiment, design, collaborate, and find alternative solutions rather than simply reproduce information.



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STEAM activities combine science, technology, engineering, art, and mathematics, creating opportunities for creative thinking, testing ideas, and improving solutions. Simple everyday materials can also be effectively used for STEAM learning.

The teacher plays a key role in supporting creativity by encouraging children's ideas, using open questions, providing diverse materials, accepting different solutions, and treating mistakes as learning opportunities. Effective teacher preparation is essential for implementing creativity-oriented approaches in preschool education.

Overall, creative competence develops most effectively in a child-centered environment where children can imagine, investigate, create, communicate, experiment, and reflect on their experiences.

A Five-Component Methodological Model

Based on the analyzed literature, the methodology for developing creative competence can be organized into five interrelated components.

Component	Main content	Expected developmental outcome
Creative environment	Open-ended materials, flexible space, emotional safety	Initiative and independence
Imaginative play	Role play, symbolic transformation, storytelling	Imagination and flexibility
Problem and project activity	Challenges, investigation, design, experimentation	Problem-solving and persistence
Art and STEAM integration	Drawing, music, construction, science and design	Originality and interdisciplinary thinking
Reflection and pedagogical support	Questions, discussion, presentation, revision	Awareness, communication and elaboration



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These components should not be implemented as isolated lessons. Their systematic integration into everyday preschool practice is more likely to support sustainable development.

Suggested Stages of Implementation (shortened)

The proposed methodology includes four main stages:

Stage 1: Diagnostic-observational stage.

The teacher observes children's interests, activities, communication, independence, and responses to new tasks to identify conditions that support creativity.

Stage 2: Motivational and exploratory stage.

Children engage with various materials, stories, natural phenomena, and creative challenges. The teacher encourages curiosity through questions and exploration.

Stage 3: Productive-creative stage.

Children create, experiment, design, construct, and solve problems. The teacher supports children's decisions without excessive control.

Stage 4: Reflective stage.

Children discuss their creative processes, challenges, changes, and achievements. Reflection helps develop awareness of their own creativity and communication skills.

Discussion (shortened)

The development of creative competencies requires a shift from product-oriented to process-oriented education. Creativity should not be measured only by the



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similarity of children's products to a model but by their ability to generate ideas, make choices, experiment, solve problems, and explain decisions.

This approach corresponds with Vygotsky's understanding of creativity as the transformation of experience [1] and with developmentally appropriate practices that emphasize active, meaningful, and play-based learning [4; 5].

Play supports multiple areas of development, including language, social skills, emotional regulation, problem-solving, and creativity. However, effective creativity development requires balanced teacher support: educators should guide children's exploration without replacing their independent thinking.

This balance can be represented as a continuum:

Direct instruction → guided exploration → collaborative inquiry → child-initiated activity.

Different positions on this continuum may be appropriate for different objectives. Creative competence is particularly supported when guided exploration and child-initiated activity receive substantial space.

Assessment also requires reconsideration.

Preschool creativity should not be evaluated only by the attractiveness of the final product. A beautiful drawing may result from copying, while a visually simple construction may represent an original solution to a difficult problem.

Therefore, observational assessment should include the process.

Possible indicators of creative competence include:

- proposes ideas independently;
- generates more than one solution;
- transforms the function of familiar objects;
- asks exploratory questions;
- combines materials in new ways;
- develops original storylines;



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- changes strategy when the first attempt fails;
 - participates in collaborative creation;
 - explains personal choices;
 - elaborates an initial idea;
 - demonstrates curiosity;
 - shows persistence in challenging activities.

Creative competence should be assessed through children's activities, observations, portfolios, explanations, and creative products rather than strict comparison between children. Each child develops creativity in different areas, such as storytelling, construction, movement, or role play.

Cultural context is also important in creativity development. Local traditions, stories, music, crafts, and natural materials can serve as valuable resources for creative activities. Combining cultural heritage with open-ended tasks supports both children's identity and creativity.

Digital technologies can enhance creativity when they are used as tools for creating, designing, and expressing ideas rather than passive content consumption. STEAM approaches provide effective opportunities for combining creativity, experimentation, problem-solving, and collaboration [6; 8; 9; 11].

However, teacher competence remains a key factor. Educators need methodological preparation to organize creative activities, ask effective questions, support children's ideas, and use mistakes as learning opportunities. Therefore, teacher training should include practical creative tasks, STEAM activities, and open-ended learning strategies.

Creativity develops when children are encouraged to experiment, make decisions, revise ideas, and learn from unsuccessful attempts. The educational goal should shift from simple reproduction toward independent creation and exploration. If



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each failure results in immediate adult correction, children may become dependent on the teacher.

A creativity-supportive response is to investigate the failure:

"Why do you think it happened?"

"What could we change?"

"Would another material work?"

"Can we try again?"

This creates an iterative learning cycle:

Idea → action → observation → problem → modification → new attempt.

Such a cycle is particularly visible in engineering and STEAM activity but can also be applied to art, storytelling, social play, and daily problem-solving.

Family participation should be considered as another supportive factor.

Parents may unintentionally restrict creativity if they value only neat, perfect products or immediately complete tasks for children.

Preschool organizations can therefore provide families with simple recommendations: allow children to build independently, ask open questions, provide safe recyclable materials, read and invent stories together, encourage drawing without templates, and involve children in everyday problem-solving.

Creativity development becomes more sustainable when similar principles are supported both in the preschool organization and at home.

At the same time, educators should avoid transforming creativity into constant pressure to be "original." Preschool children need both repetition and innovation. Repetition supports mastery, security, and memory. Creativity emerges when children can use familiar experience in new combinations.

The pedagogical task is therefore not to eliminate reproductive learning but to balance it with opportunities for transformation.



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Practical Methodological Recommendations

Based on the analysis, the following recommendations can be proposed for preschool education practice.

1. Replace some closed tasks with open-ended tasks.

Instead of giving children only activities with one correct outcome, regularly introduce tasks with multiple possible solutions.

2. Provide multifunctional materials.

Blocks, natural objects, paper, cardboard, fabric, clay, recycled materials, and loose parts can stimulate more diverse ideas than highly predetermined toys.

3. Ask questions that stimulate thinking.

Questions beginning with how, why, what if, what else, and can you find another way are particularly useful.

4. Give children sufficient time.

Creative activity frequently develops gradually. Avoid interrupting an emerging idea only because a fixed time period has ended when the schedule permits flexibility.

5. Encourage children's initiative.

Include children's questions and interests when selecting project themes.

6. Use storytelling creatively.

Invite children to invent characters, continue incomplete stories, change endings, or retell an event from another character's perspective.



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7. Integrate creativity across educational areas.

Creative competence can be developed in mathematics, language, science, physical activity, music, nature exploration, and social learning.

8. Organize collaborative projects.

Small group activities develop not only individual imagination but also negotiation, communication, and collective problem-solving.

9. Encourage testing and revision.

Do not treat the first result as final. Ask whether the child wants to modify or improve the product.

10. Document the process.

Use portfolios, photographs, observation records, and children's explanations to assess development over time.

11. Avoid excessive comparison.

Evaluate children's progress in relation to their previous abilities rather than ranking products from "best" to "worst."

12. Use culturally meaningful content.

Local traditions, crafts, nature, stories, and community experiences can provide rich sources for creativity.

13. Combine art and STEAM.

Engineering and science challenges become particularly productive when children can also make aesthetic and imaginative decisions.



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14. Develop teacher creativity.

Preschool educators require continued professional learning in open-ended pedagogy, project methods, STEAM, observation, and facilitation.

15. Build partnerships with families.

Explain that independent exploration and imperfect attempts are important parts of development.

Conclusion

The development of creative competencies in preschool children requires a systematic and developmentally appropriate approach. Creative competence includes imagination, originality, flexibility, curiosity, initiative, problem-solving, communication, and the ability to create new ideas based on previous experiences.

The study shows that creativity develops effectively through a supportive learning environment, play-based activities, project learning, artistic expression, and STEAM approaches. The teacher plays a key role as a facilitator who encourages children to explore, experiment, make decisions, and develop their own solutions.

Creativity assessment should focus on children's developmental progress, including their ability to generate ideas, solve problems, modify materials, and express themselves independently. Therefore, creative competence should become an integral part of preschool education rather than an occasional activity. A preschool environment that promotes imagination, exploration, communication, and reflection contributes not only to creativity but also to the formation of independent and active learners.



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