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SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2020 Issue: 06 Volume: 86

Published: 17.06.2020 <http://T-Science.org>

QR – Issue



QR – Article



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SCIENTIFIC AND METHODOLOGICAL PREREQUISITES FOR DEVELOPMENT OF ARTISTIC CREATIVITY IN THE LEARNING PROCESS

Abstract: This article is investigating scientific and methodological prerequisites for development of students artistic creativity in the learning process. The problem of global education in the modern society requires changes in the pedagogical activities, in students creative skills and their personal qualities. Emphasis in the learning process is considering necessity of focus on the teaching process and cognition development of graphic, written, speech, strategy making, and communicative skills of students. Graphical methods strategy was applied by students during their interpretations. Application and importance of interactive methods used for development of cognitive abilities were recognized in this work. Provisions of quality education for every student in class were handled by the critical thinking strategies. The first step for implementation of this strategy was drawing images, followed by writing and oral explanation, with an extensive explanation to the audience. Learning of the new information was achieved by students presentation skills and graphical methods.

Key words: methodologic, development, artistic creativity, learning process, competence, skills.

Language: English

Citation: Ukueva, B. K. (2020). Scientific and methodological prerequisites for development of artistic creativity in the learning process. *ISJ Theoretical & Applied Science*, 06 (86), 201-205.

Soi: <http://s-o-i.org/1.1/TAS-06-86-38> **Doi:**  <https://dx.doi.org/10.15863/TAS.2020.06.86.38>

Scopus ASCC: 3304.

Introduction

UDC: 37.012.8(572.2)

Examining scientific creativity through the lens of artistic practice may allow identification of a path towards an institutional environment that explicitly values and promotes transformative creativity in science (Lehmann & Gaskins, 2019). Questioning is the basis of teaching task which encourages recalling, deepens the learning process and comprehension of students, promotes their imagination and problem-solving skills, and satisfies the sense of curiosity (Zolfaghari et al., 2011). Creative teaching should encourage students to see the essence and details of the subject, to formulate and solve problems, to see the connectedness between diverse areas, to take in and react to new ideas, and to include the element of surprise in their work (Reid & Petocz, 2004).

The main obligation of the creative person is to make right decisions, to look for their possible consequences, and ability to assume responsibility for current situation with prospects. Rapidly changing world demands today's education of high school students' undergo changes with creativity principles to form pedagogical activity in order to develop capable of communication and collaboration people personalities (Lavrenteva, 2014). For this reason, necessities arise to develop students' cognitive skills and creating opportunities for widespread use of new technologies (Barabasch & Cattaneo, 2019). The main emphasis in use of interactive methods in the learning process is to develop students artistic creativity by graphical and written skills (Barbot et al., 2012), communication strategies (Willems, 1987) reflected in the teaching content. Competent teachers methodological support of students in the right

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direction can contribute to formation of successful results.

Creative thinking is closely related to divergent thinking and ability to produce a variety of approaches to a specific problem, leading to unexpected conclusions and results (Mynbayeva et al., 2016; Isabekov&Sadyrova, 2018; Davies et al., 2013). Artistic or creative process is known as Science, Technology, Engineering and Mathematics (STEM) education(Bequette&Bequette, 2012). Artistic activities used in the learning process are straightly binding with visual thinking of learners, due to domination of television, video games, computers, tablets, and etc. in the multimodal world of recent young people (Braund& Reiss, 2019).

1. Research methods

Graphical methods in small groups and a visual art learning complex systems of perceptual, higher cognitive, and motor functions of students, suggesting a strong potential for cognitive transfer in learning and creativity (Tyler &Likova, 2012) process were used. In our work we taught students to use graphical processing methods for writing activity and drawing images in groups. Graphical methods strategy was applied in students interpretations. The first step for implementation of this strategy was drawing images, followed by writing and oral explanation, with an extensive explanation to the audience. Learning of new information was achieved by students presentation skills, and graphical methods such as inserting blocks, clusters, vendors, etc. Graphical methods were conducted by three stages: 1) warming up; 2) understanding; and 3) thinking.

2. Results and discussions

Interactive strategy methods proposed in this article will help to improve students' creative activities

and develop more educated person. Teacher within the problem based learning (PBL) method, can stimulate the learning process of students through active listening, communication, formal and informal, open-ended questions; promote cooperation between members of the group (Lile&Kelemen, 2014).

2.1 Cognition development

Cognitive development arises from the cognitive education, may be defined as an approach to education which is based on the cognitive science studies, developing, and applying cognitive processes to realize qualified learning (Talkhabi&Nouri, 2012). Graphical interpretation competence is essential for development of students cognition in the learning process to understand new information and scientific literature (Glazer, 2011). According to the research results, writing is one of basic skills developing students cognition, fostering them in the learning process by metacognitive strategy which forms planning, drafting, monitoring, and evaluating processes (Cer, 2019). In practice, critical thinking skills emphases can be achieved in a learning process included into making decisions to prepare the steps of problem-solving experiments, analyzing, making inferences, evaluating, and drawing conclusions (Hadiet al.,2018).

2.1.1 Venn diagram

A Venn diagram is a simple illustration that is using ovals to picture any data, where analysis begins with and the subsetting, unions, and intersections (Hughes, 2016). In our case we have used Venn diagram for improvement of homework asking stage as shown in the Figure 1.

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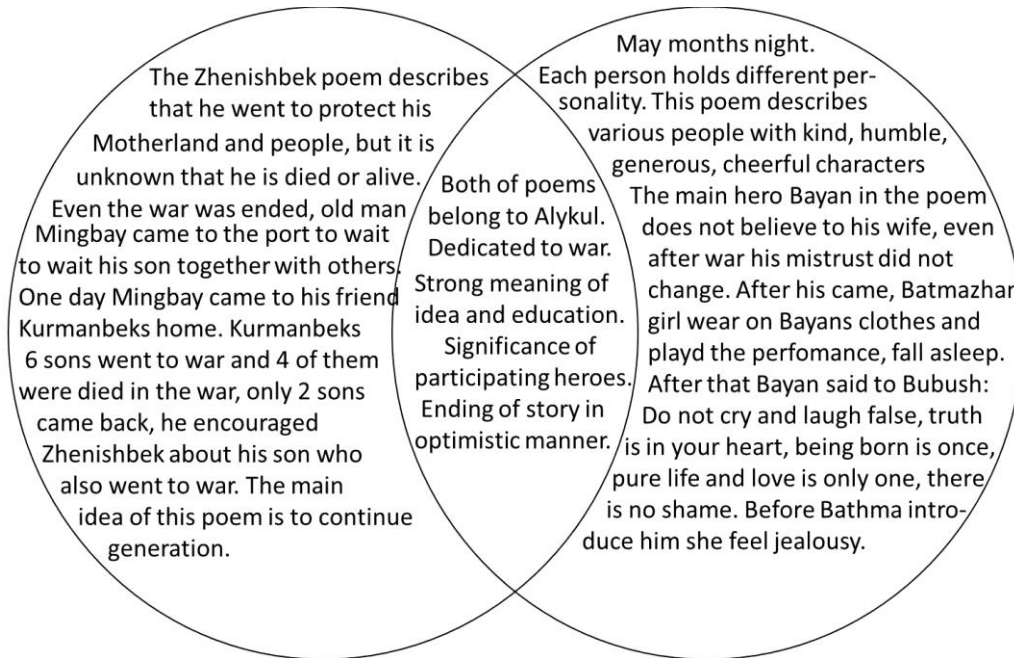


Figure 1. Venn diagram used for improvement of homework asking stage.

2.1.2 Concept mapping

Concept mapping is a teaching-learning strategy that can be used to evaluate student's ability to critically think and allow the learner to visually reorganize, arrange information in a manner that promotes learning of interrelating concepts (Senita,

2008). Concept mapping was used to evaluate the knowledge structure of students in problem-based learning and understanding (Hung & Lin, 2015). In our study students learned knowledge structure from the new topic presented through a conceptual map as shown in the Figure 2.

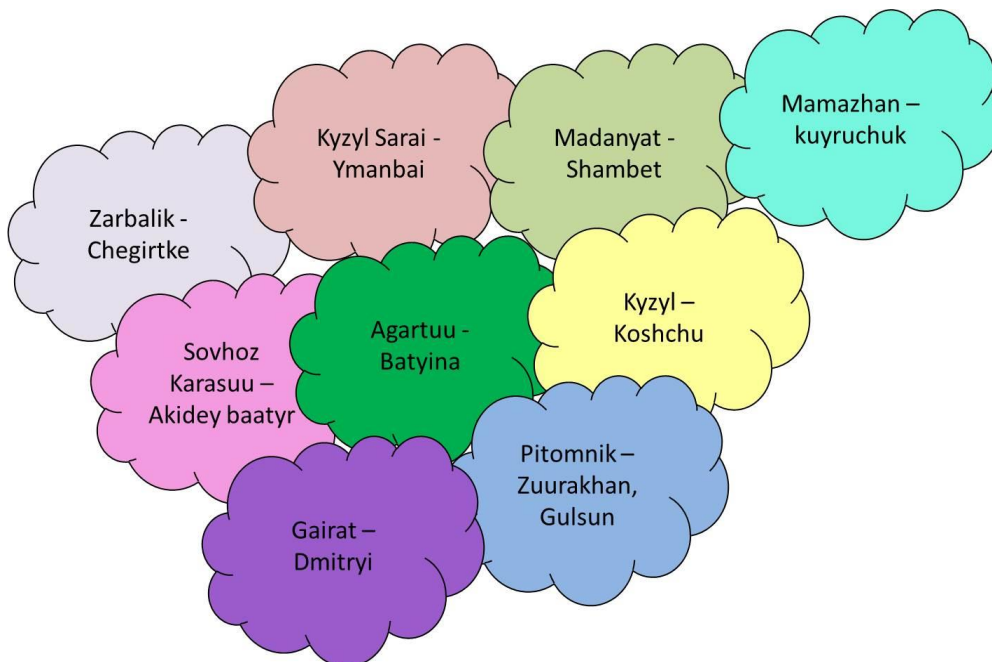


Figure 2. Conceptual map for explanation of the new topic in warming up process.

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2.2 Creativity and critical thinking

Creativity and critical thinking are two competencies that gained more and more attention these past years, especially, since the need to develop information and communication technologies in school (Ahmadi&Besançon, 2017). Creativity, questioning and critical thinking as an integrated set

of high order cognitive skills can characterize intelligence (Albergaria-Almeida, 2011). Figure 3 is showing Blooms taxonomy containing necessary components for development of students creativity and learning activities during the education process.

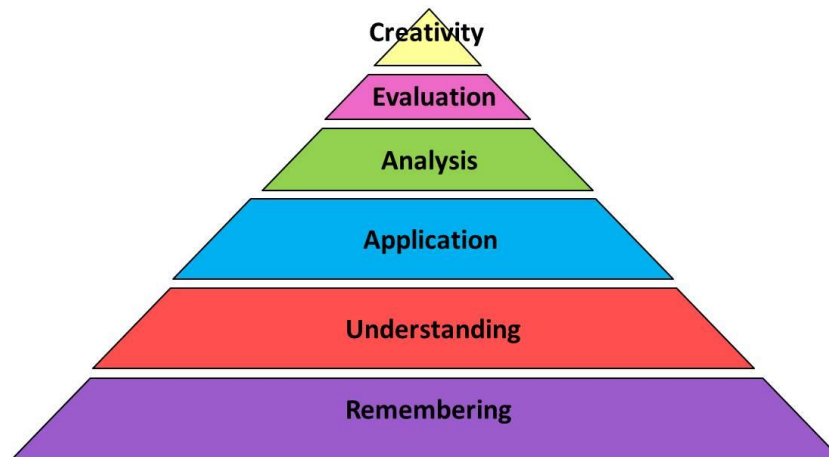


Figure 3. Blooms taxonomy of necessary components for development of creativity and learning activities of students.

Components of the Bloom taxonomy are appearing in students during the learning process. The main goal of modern education is to train and develop specialists who are able to actively carry out various technological operations in any industry and necessary area. Competent teacher in the students learning process as should implement several

activities a professional specialist (Figure 4). Transfer of students obtained knowledges between each other can be achieved according to principles as: “do as I do”, “learn this”, and “know this”. Consideration of this issue into learning process allow saving time and train specialists for needs of society.

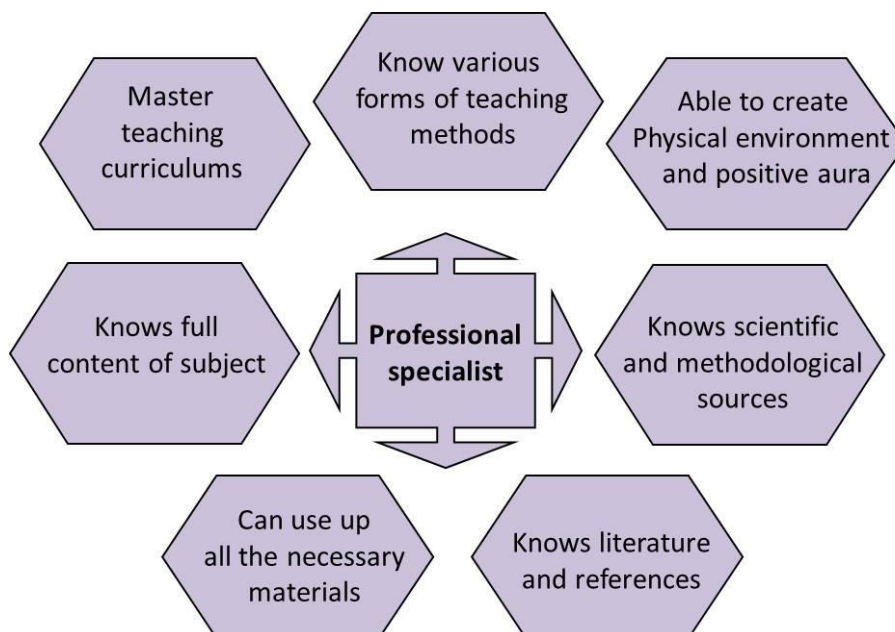


Figure 4. Various abilities and skills of professional specialist used in the learning process.

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3. Conclusions

Developments of artistic creativity in the learning process by using of interactive methods for development of students cognitive abilities have been described in this work. Cognitive skills of students can be developed by using of graphical methods in small

groups and a visual art learning complex systems of perceptual, higher cognitive, and motor functions. These features will not radically change the philosophy of education, and the change of the role of a teacher and students in the educational process.

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