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Research Article

Development of Creative Abilities on Pupils Through Integration of Digital Technologies in Technology Lessons

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ABSTRACT

Introduction: At present the great attention to developing and using in educational process of modern innovation technologies dealing with the digitalization of educational medium is paid.

Objectives: The analysis of task of developing the creative abilities of pupils through integration of digital technologies on technology lessons have been presented. This task in the philosophy anthropological knowledge context is considered. Integration of the digital technologies changes the appearance of traditional forms and educational methods. It affects essentially to the personality of modern human and figure of his creative activity.

Methods: The integration of labor education and creative activity makes educational process more effectively because of creativity promotes the personality development taking into account his needs and interests. The primary school age is totally sensitive to the creative personality development that directly acts to the formation process and enrichment ability to figurative and artistic perception of life.

Results: It has been showed that for reaching this aim the formation on pupils, motivation them to investigating activity, developing the intellectual and creative abilities, expansion of horizon and increasing general cultural level are required. It has been revealed that the most successful creative activity is collective one of senior classes pupils on titles dealing with the traditional handicraft's kinds (skullcap embroidery, patchwork, bead embroidery, traditional embroidery, artistic design of household items), for example, "Uzbek national dress", "Clothing from the early XX century", "Clothing the period of Kokand khanate", "Historical dress of literature heroes".

Conclusions: Advantages of pupil's handmade are incomparable to anything because of its results are obviously, tangibly and close us in time. Therefore, lessons are held in such a way that each child can realize fully, multifaceted own abilities in one's working process, in order to products of his work brought tangible joy from that these products came in handy in real life and made others happy.

Keywords: creative ability, integration of technologies, technology lessons, broadening pupil's horizons.

INTRODUCTION

At present the great attention to developing and using in educational process of modern innovation technologies dealing with the digitalization of educational medium is paid. In paper [1] the possible variants of organization of education with orientation to development of creative abilities of pupils had been considered. The main directions of theoretical and experimental researches on task of the development of creative abilities of pupils in lessons had been selected. The pedagogic conditions for activating the pupil's creative activity in the natural science profile lessons through organization of creative activity on development and solution of the problematic mathematical tasks with a natural science content had been justified. The educational and methodical complex of problematic situations for a natural science content and its mathematical models had been proposed.

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In paper [2] the "creation" term had been justified and the necessity for developing the creation abilities, theirs features, factors influencing to stimulation of creative activity had been showed. Authors of paper [3] had considered the role of integration between subjects in formation of future specialist personality where one of the priority directions in the educational process is development both as intellectual and as creative abilities of pupil. The most successful solution of the assigned task is possible in case of organization of educational process in framework of integration natural and humanitarian knowledges that uses in practices much less in often in comparison of the integration of related sciences. The work experience with students had been presented where study of the new material in integrated astronomy and philology lessons is carried out, which are served in the different levels: involving simultaneous learning (binary lesson) and conceptually informative (lessons by separate teacher are carried out but they are connected by a single theme, aim and educational tasks). If the first lessons are being built on correlation of literature text (poems of modern authors) and scientific information obtained from astronomy teacher and during independent education then later for critical analysis the fragments of poems are selected where authors characterize false the astronomical objects and phenomena in the scientific point of view are described wrongly.

Author of paper [4] had considered the different aspects of digital transformation in the framework of formation conception of a new technological structure. There the digital transformation content had been revealed, one in aspect of key characteristics and economics functioning levels had been considered.

As authors of paper [5] had constated the relevance of the research is due to the need to identify the essence and find new technologies for the development of creative abilities of junior school students in the modern educational process. To achieve the goal of the research they applied theoretical analysis and synthesis; modelling of ways and means to develop creative abilities of junior schoolchildren in the modern educational process; a set of diagnostic methods. ones also had studied literature, educational and methodological documents, and the results of students' activities. The obtained results allowed to state that the development of creative abilities of junior schoolchildren is related to providing conditions for the development of creative imagination, creative thinking and successful creative activity. An important condition for the successful development of students' creative abilities is the application of modern teaching technologies in the educational process of primary school - problem-developmental, case technology, use of creative and non-standard tasks, development of critical thinking, brainstorming, differentiation of learning, etc.

In paper [6] the question on the formation risks of new human type, that is the digital one, his creative abilities are shackled with limitations and risks generating virtualization everyday life, had been considered. In result, the human knowledge faces the task of objective estimation of threats of over involvement of human in reality of digital world and losses to him own creative potential. Virtualization of the social life provokes changes in the cognitive sphere too, that affects also in the human creative activity. In result of search devices of neutralization of mentioned above threats author turned to the philosophy practice arsenal developing the personality self-regulation and self-control as the device of overcoming challenges of modern digital culture.

Authors of paper [7] had considered the terms on the digital educational resources, had studied the order of their use, efficiency and meaning and the creative abilities developing in the elementary school. In paper [8] the creative abilities formation task of elementary school pupils in lessons on technology had been investigated.

Author of paper [9] had considered the structure components of technological thinking and didactic systems of their development in the technological activities process of students. The quantity of structure components for thinking had been increased essentially in comparison of existing ones and the necessity of development of each from ones in the modern technological activity of students had been justified. The commonality of all components of technological thinking for the different technological processes had been emphasized and their special meaning in the developing education of students in lessons on sewing technology had been showed.

In paper [10] the analysis of possibility using computer techniques on developing the creative abilities process of cadets of Russian educational organizations had been presented. The investigating task was the revealing potential of information technologies in the developing creative abilities of pupils. Solution of the task based using the general scientific methods of investigation had been realized. Author of paper [11] had noted that master-class is the innovative pedagogical technology allowing increase the motivation of pupils to knowledge activity.

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OBJECTIVES

The integration of labor education and creative activity makes educational process more effectively because of creativity promotes the personality development taking into account his needs and interests. The primary school age is totally sensitive to the creative personality development that directly acts to the formation process and enrichment ability to figurative and artistic perception of life. One of the important pedagogical conditions for formation of creative abilities of the primary school pupils to the various work types is using special methods promoting activation of personality creative potential: informative-receptive, investigative, particular-searching, problematic presentation method. Because of projection of modern lesson on technology in the primary school must based on complex using innovative resources the teacher must adapt the many educational methods and ways for lessons on distance [8].

At present the great attention is paid to developing and using the modern innovative technologies in the educational process dealing with the digitalization of educational sphere. In paper [12] the through technologies of digital economics, that are the virtual and additional reality had been revealed. Views and opinions of scientists on the informative society had been analyzed and provisions on readiness of pupils for working with the modern technologies had been formulated. The influence of digital technologies to changing and extension forms and types for the teacher activity had been revealed. Authors of papers [13, 14] had considered quest technology in the educational process for the development of creative abilities of pupils. Quest technology is considered to be one of the modern techniques in teaching foreign language speaking which involves students in the educational process, increases their level of motivation, creates conditions for reducing communication barriers and contributes to the development of students' creative abilities. Particular attention is paid to the educational quest developed as part of the experimental work.

The quest technology is one of modern methods in education foreign language speaking engaging pupils to educational process increasing their motivation level creating conditions for decreasing communicative barriers and promoting development the creative abilities of pupils.

In paper [15] the working experience in field of development the creative abilities of pupils through integration method had been presented. Author had proposed recommendations and advices to creation such situations in the educational process when each pupil feels like a thinker and a creator. Based on the features of modern educational process the main aim of the pedagogical activity is development of creative potential of pupils in process of the technological training.

For reaching this aim the studying programs had been corrected with taking into account the possibilities and pupil's interest [16]. Contents of the subject perspective thematical plan has been revised, correlated in the framework of selection of the different types of independent and practical study, improvement of didactic material, different educational devices increasing efficiency of education. Selection contents of studying material for lessons has been carried out taking into account information must be interest and assessible for understanding pupils. Exercises have been selected taking into account of the psychophysiological features of pupils. In order to maintain interest on pupils to the studying material in the lesson structure we provided the modern change of activity.

METHODS

The integration of labor education and creative activity makes educational process more effectively because of creativity promotes the personality development taking into account his needs and interests. The primary school age is totally sensitive to the creative personality development that directly acts to the formation process and enrichment ability to figurative and artistic perception of life. One of the important pedagogical conditions for formation of creative abilities of the primary school pupils to the various work types is using special methods promoting activation of personality creative potential: informative-receptive, investigative, particular-searching, problematic presentation

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RESULTS

For visibility we use in lessons the different didactic materials, samples of node-by-node procession of products, patterns and mini-patterns, samples of finished products. The educational process is realized through the correction stage taking into account of the individual features and needs of pupils, improvement the teaching methods with aim of developing abilities and natural inclinations. The main form of organization of the educational process in our activity is combined lesson, in which elements of theoretical and practical lessons are joined. It gives not only possibility to consolidate the theoretical knowledges with practical skills, but also allows to alternate the activity type that corresponds to requirements of health of savers technologies.

With this aim on the cabinet stand the technics safety rules are suspended using them pupils will get acquainted at the beginning lessons of each program's block. Lesson learning on all themes we shell try organize in atmosphere of goodwill and determination. The phycological atmosphere in class is benevolent based on the mutual respect, trust and openness. We are trying work with children under the motto "Trust and cooperate". Materials for lesson we select in order to create the situation success on promotion way from ignorance to knowledge, from inability to ability.

In order to monitor the quality of assimilation of program material, timely reveal typical and random errors we use the different control kinds of pupil's knowledge: tests, independent works with differential character. The knowledge estimation results are informed and commented to pupils. Correction ways and troubleshooting are planned. We use the reflexional method which helps to teach children self-assessment knowledge. One always remembers that any activity needs the estimation, reward, encouragement.

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Especially this important in relation for pupils lagging behind in their knowledge. We must praise the child for each luck creating goodwill relation to subject. In own pedagogical activity we use the following methods and techniques:

– the creative method, with formation aim on pupils of creative approach for solving tasks, activating educational, creative and independent investigating activity;

– individual (differentiated) approach in education;

– problematic, developing education;

– game technologies, that is modern and recognized educational method having educational, developing and educating functions which act in the organic unity; the main aim of the game is development of stable knowledge interest on pupils, activation of the mental activity.

All these methods and ways are oriented not only for obtaining knowledges but also ones are elements of the developing education allowing to reveal the intellectual and creative potential of each pupil. In order to reach the good luck in the sewing education developing the internal motivation on pupils to education is required. The motive is understood as experience inciting to commit an act that is the activity focus to the subject education. If the required motivation on pupils is absent then it is impossible to reach the positive results on them education.

Consequently, the necessity of top priority for formation of positive motivation of educational activity on pupils to sewing lessons is appearing. In the own activity we use the different methods and ways of motivation formation in lessons:

– intellectual (situation of task's choice, levelling differentiation, problematic questions and tasks);

– emotional (high esthetic material level, using nonstandard tasks, surprise);

– social (using personal experience, working in groups, competitions, game method, activation self-esteem, connection with life, creation the choice situation);

– external organization of lesson (introduction of hints and algorithms);

– pragmatic reception, timely encouragement.

As analysis of carried out lessons in duration of educational year on developing creative abilities of pupils is showed that the creative initiative of pupils cannot come from nothing. Create something new and beautiful can only the "able" pupil. Therefore, as base of the develop the creative abilities in the labor training is the knowledge, skills and abilities.

For formation and developing the creative activity the constant, purposeful study work is required. This development in process of some theoretical and practical activity is realized. Formation on pupils of technological knowledges and training technological techniques, undoubtedly, leads to the enrichment of figurative representations of pupils, development their fantasy and imagination. But in order to create on beauty laws is important not only have knowledge and skills but also good developed aesthetic taste. "Developed aesthetic taste" term inseparable from aesthetic education and culture. The aesthetic education to comprehensive development of creative personality is subordinated. Realization of the program is considered as goal-oriented process of formation on human of aesthetic relation to the reality, understand beauty, able to bring beauty to life, construct its on beauty laws.

Therefore, to the base content of teaching subject, lessons oriented to formation and development of abilities estimate correctly environment in point of view harmony and beauty, activation of creative activity of pupils in process of including ones to the different activity types, are included. To lessons creating the aesthetic and creative focus we can include the following lessons on titles: "From history of national dress", "Basics of color literacy", "Basics of materials science", "Clothing modeling" and also lessons on decorative applied art where pupils are carried out the various types of work (embroidery, knitting, painting on fabric, processing the different on quality materials).

The structure of lessons is that firstly pupils obtain the historical information on some theme, further they are studied the technology basics and processing ways using given samples, later ones start to implement practical tasks. When

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the creative work is planning, the theme and working objects in accordance with possibilities of pupils (knowledge level, skills, level of general culture) are selected. In order to avoid overload of pupils the greatest part of the work we propose carry out in the lesson's duration.

The leading principle of organization of lessons is the differentiative approach which choosing practical tasks corresponding to possibilities of each child is realized. Thus, assignments are divided for three groups:

– first group is the reproductive activity of pupils;

– second group is the transforming activity of pupils with personal creative elements;

– third group is the creative activity of pupils in the framework of carrying out educational and creative projects.

Organization of practical lessons is that after carrying out practical works at finish of lesson pupils demonstrate own works on express-exhibition. It allows us to estimate objectively works with pupils, reveal advantages and deficits in works. Pupils in turn are became more responsible, objective than later by such discussion and further are trying avoid the identified deficits.

It should be noted the many years of experience, unfortunately, had showed that the aesthetic aspect of work in qualitative carried out work often leave much to be desired. Therefore, especially when projects carry out the much attention to discussion of aesthetic criteria of work is paid. The additional stimulus to the creative activity is thematic exhibitions on individual works of pupils which allow them to estimate and compare the originality and quality of carried out works.

The important component of the knowledge and creative activity of pupils is their motives, that are internal ones which guide the pupil carrying out some educational activity. The teacher's task is to secure this interest, promote increasing his level through thoughtful organization of educational process.

In order to create the stable interest to own subject and increasing motivation level of pupils the nonstandard lessons are carried out. These lessons, for example, the game-lesson entitled "We are waiting for guests", journey-lesson "Uzbek national dress", competition-lesson "Culinary duel" and et al always have the increasing interest and positive emotion on pupils. In this case the different education methods are used:

– reproductive (the value of this method is its accessibility for all pupil's category);

– explaining-illustrative (explanation with demonstration of visual material is accompanied);

– problematic (teacher declares the problem and solves it together with pupils that promotes to creative approach to any work);

– investigative (independent work with book and execution of presentation, using this method puts pupil in a position investigator, teaches independence and broaden horizons);

– projective (value of this method is it promotes to create interest for solving some problem, develop imagination in creative projective process, is power stimulus for appearing the new ideas).

The projective activity allows involve each pupil to active knowledge and creative activity. In projection process each pupil identifies the problem itself, sets a goal, reaches it, independently plans and organizes own activity. It promotes formation of key competitions such as determination, communicativeness, self-education, self-development, responsibility.

As analysis of results showed that teaching lessons with method of creative projects allows us to reveal and develop the creative possibilities and abilities of pupils, teach solve the new nonstandard tasks, reveal on pupils their individual features. Except methods promoting development of aesthetic taste and stimulating interest to subject we use methods incentives and awards.

In order to create on lessons, the comfortable psychological and emotional conditions we in lessons use the cooperation, humanistic, trust and goodwill principles. The emotional activity by atmosphere of psychological

comfort, creating success moments, tactic correction of errors is reached. There we use the cooperation technology which, in our opinion, very productive, since promotes to develop creative abilities. We think that kindness, tolerance, ability to be interesting are the effective pedagogical devices. When one is speaking on the teaching method then we must remember on organization of the activity of pupils on lesson too. For activation the educational-knowledge activity of pupils the different organization types are used:

– frontal method, which promotes the knowledge formation;

– group method, promoting development the organization qualities, sense of responsibility and communicative skills of pupils;

– collective (group) method, which promotes develop the sense belonging to general activity, able to present and justify own point of view;

– individual method, promoting development of individual skills and creative abilities.

On lessons in cooking [17] the brigade uniform of work organization is used. It carries the competition element and creates conditions for formation skills to work in group under the leadership of the foreman, promotes to development of communicative skills. In paper [18] another approach for using intellectual information technologies for improving work with gifted youth both as net (regional, national) and as autonomic (in the framework of separate educational organization) level had been proposed.

In each lesson the constant control and correction of educational knowledge activity of pupils is required. For example, when work on the product is finishing then the quality control of the finished product in the following sequence is carried out: to each finished product the costs list is glued, in which pupils give their assessment to quality of the finished product. In result, each pupil obtains the average arithmetic estimation of own working activity. Attraction of pupils to estimation of working activity of own classmates allows to construct and develop skills of self-control and mutual control, be objective and correctly accept criticism.

DISCUSSION

During of observing for this educational process and estimation of results we can conclude that: this lessons cycle to form on pupils the motivation to investigating activity, develop intellectual and creative abilities, expend horizons and increase general culture level is designed.

The most successful creative work is collective one of high school pupils on themes dealing with the traditional types of handicrafts (skullcap embroidery, patchwork, beadwork, traditional knitting, artistic decoration of household items), for example, “Uzbek national dress”, “Clothing from the early XX century”, “Clothing the period of Kokand khanate”, “Historical dress of literature heroes”. Then costume for open literature scene on novel by Abdulla Qodiriy entitled “Leaving the darkness” were made.

At present all collective works of pupils are used in technology cabinet as demonstration samples and create the positive aesthetic effect to pupils. Finishing mentioned above we would like to note that the advantages of self-made work are incomparable to anything because of its results are obviously, tangible and are close to us in time. Therefore, lessons are carried out in order to each child can realize fully multifaceted own abilities in the working process for bringing tangible joy from that they in real life came in handy and made others happy.

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