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Jan Danek[1], P.Z.Ishanov[2], A.G.Ulzhabayeva[2], T.Y.Yeralinova[2]

[1] St.Cyril and Methodius University, Trnava, Slovak Republic;
[2] Ye.A.Buketov Karaganda State University
(E-mail: 2new_life@mail.ru)

The content of students’ development stages of creative abilities in the pedagogical process

In the content of this article authors reveal the problem of development of students’ creative abilities, determined role of algorithmization in the development of creative abilities, the essence of development of students’ creative abilities, which is aimed at the formation of managed, creative thinking, combining the use of all types, ways, techniques and methods of thinking and deep knowledge for the successful implementation of various types of teaching and learning activities. An important role in the development of creative activities of scientific logic plays actualization of students' abilities. It should be noted that the authors put forward the modern idea that the essence of development of creative abilities of students is to develop strong thinking, which combines the use of all types, methods, techniques and methods of thinking with a deep and a wide knowledge, a good memory, attention, will and hard work.

Key words: foreign language, teaching, development, algorithmization, creative activity, pedagogics, creativity, personality, methods of teaching, motivation.

Modern interest in creative activity is caused by the fact that it is represented necessary basic essence of the person. In the light of this approach creativity is activity and nothing else. Actually, creativity differs in that it exceeds the valid level of activity of the student and crosses the former border, available opportunities, i.e. it helps to realize what had previously been relatively and historically impossible for personal development.

From the standpoint of pedagogical sciences, the development is the result of active interaction of the internal natural forces and human social and educational conditions.

Education in relation to the development plays a leading role, as it determines the level, breadth and depth of this development. There are several kinds of development: physical, labor, intellectual, civil, political, emotional, moral and aesthetic [1; 274].

It is known that creativity and creative activity is the activity generating something qualitatively new and differing in originality and socio-historical uniqueness.

From the point of view of some scientists creativity is generation of new information in this or that field of science, equipment, production, art or activity and creative abilities of people in general [1; 330].

The important role in development of theory bases of development of creative abilities of the students was played by researches of regularities of creative process in various kinds of activity.

The fundamental works of L.S.Vygotsky, A.N.Leontiev, S.L.Rubinstein, B.M.Teplov in the works of A.G.Kovaleva, T.V.Kudryavtseva, Yu.N.Kulyutkin, A.M.Matyushkin, N.S.Leytis, Ya.A.Ponomarev, V.N.Pushkin, Yu.A.Samarin, G.S.Suhobskoy and others the various aspects of the creative process had been studied.

Also, it is necessary to note a number of studies devoted to psychology of creativity, training creative personality, revealing the creative genius (Dzh.Gilmer, A.Krolli, F.Lezer, G.Melorn, Ya.Hlavsa, D.Shellkross).

Abilities — the individual characteristics of the people, on which the acquisition of knowledge and skills, as well as the successful implementation of the various activities depends on [2; 679].

With the aim of modern understanding the problem, indicated by us, is expedient to stay on the concepts of algorithm and methods of solving creative problems.

«The algorithm is a set of actions, the rules for the solution of defined-term objectives». Algorithm is a program solution, precisely prescribing how and in what order to get the result determined by the initial data. Methodology — a system of methods and means of achieving any goal [3; 34].

From the definitions it is clear that the notion of «algorithm» and «methodology» are similar in meaning — they give an answer to the question: how to do? However, it should be noted that the algorithm is different from the methodology with more clarity and certainty, but it requires creation for more formal situation.

The algorithmization role in the development of creative abilities is estimated in science ambiguously and there is an opinion that creative tasks have no algorithms of the solution or that the algorithmic thinking can lead to template thinking.

So, S.M.Shalyutin distinguishes the concepts of algorithmic and creative components. He notes that the person resorts to creative search under following conditions:

a) there is no algorithm for solving the problem;

b) the algorithm of the solution though exists, but is unknown (or unknown at all, or it is unknown to this person);

c) the algorithm is known, but it is too bulky and it is possible to hope that the accounting of specific features of a task can significantly reduce a way of its decision [4; 9].

Manifestation of creative abilities can't be reflected with full algorithmization, though partial reflection is observed in scientific literature and has a certain expediency.

Yu.G.Tamberg in his book «How to Teach the Child to Think» explains importance of algorithm application at the development of creative qualities of the person. In his opinion, the algorithmic thinking can't lead to template thinking because:

a) not only one algorithm is proposed for all occasions, but a set, for each type of tasks;

b) a good algorithm foresee giving many unconventional solutions. «Good algorithm simplifies, accelerates, and improves the solutions» [3; 27].

It is necessary not only know algorithm, but also to be able to introduce it, to obtain the solution and implement it. The more difficult task is, then more algorithmic methods for the solution should be used to enhance the effect of the decision and reduce the time to receive it.

The limiting case of algorithmic process of the solution of creative engineering tasks is the Algorithm of the Solution of Inventive Tasks — ASIT developed by G.Altshuller.

In science rather large number of methods and techniques of the tasks solution are developed. So, for example, Yu.G.Tamberg systematized all known methods and classified them by algorithmic level (or by controllability level of thinking) (Table).

T a b l e

<table>
<tr><th colspan="2">Activization methods of finding solutions or partially algorithmic methods of thinking</th><th>Algorithmic</th></tr>
<tr><td>The method of trial and error (C + F)</td><td>Morphological analysis (C)</td><td>Mathematics</td></tr>
<tr><td>Common sense (C)</td><td>Method of control questions (C)</td><td>Logic (C)</td></tr>
<tr><td>Thinking along the association (F)</td><td>Method of focal objects (F)</td><td>Artificial Intelligence (C)</td></tr>
<tr><td>Thinking along the analogy (C)</td><td rowspan="2">Synectics (F)</td><td rowspan="2">Theory of Inventive Problem Solving (TIPS), ASIT (C + F)</td></tr>
<tr><td>Traditions, habits</td></tr>
<tr><td>Heuristic methods (C + F)</td><td>Functional-cost analysis (C)</td></tr>
<tr><td rowspan="2">Collective methods:
Brainstorm (C + F)
Discussions (C)
Expert assessment (F)</td><td>Compromise solutions (C)</td><td>Development of creative imagination (F)</td></tr>
<tr><td>«Round table»</td><td>Creative personality development theory (C + F)</td></tr>
<tr><td>Figurative thinking (F)</td><td>Search of the decision in books</td><td></td></tr>
<tr><td>Intuitive solutions (C + F)</td><td>Empathy (C + F)</td><td></td></tr>
<tr><td>Comprehension of the situation by a story (C + F)</td><td>System operator (C + F)</td><td></td></tr>
</table>

Note. (C) — Conceptual thinking; (F) — Figurative thinking.

Thus, in a pedagogical science determined that the essence of the development of creative abilities of students is the formation of a strong (managed, creative) thinking, which combines the use of all types, methods, techniques and methods of thinking with a deep and broad knowledge, good memory, attention, will and hard work.

Important role in the development of creative activities of scientific logic plays actualization of students' abilities. This process is carried out as follows:

a) emergence intent, i.e., certain problem of situation;

b) awareness of intent goals;

c) accumulation of observations;

d) selection of the best possible creative solutions of the problem by sorting options according to their abilities and characteristics;

e) the result of the creative process and its evaluation [5; 15].

In our opinion, it is appropriate to prolong the term of activities and highlight this approach as a special item of the algorithm.

Such an algorithm is characteristic of the development of creative abilities in different fields: chemistry and biology, mathematics and physics, etc.

For the general logic of development of creative abilities it is necessary to see the psychological content of each phase. Ya.A.Ponomarev identifies the following phases of logical analysis (reliance on the knowledge and abilities), intuitive solution phase, verbalization of intuitive decision phase, which is conscious not only the result but also the way to solve the (procedural aspect), the phase of formalization verbalized solutions, giving found the final decision, logically complete form [6; 65].

If in the substantial plan the general scheme of development of creative abilities corresponds to the structure of creativity opened with eureka, then in procedural aspect there is a number of the specific characteristics surrounding individual abilities.

Of course, the process of manifestation of creativity depends on the students' abilities. In our opinion, the manifestation of creative abilities of students has the following technology:

- the ability to see the extraordinary in the everyday activities and objects;
- universal use of known objects;
- the heuristic prediction of objects, actions, processes; the specific activities characterized innovation;
- the opportunistic use of objects of activity;
- the momentary and further modeling of objects activities

Development of creative abilities on English language lessons should be presented in the form of essential provisions.

1. Disclosure of general abilities on the lessons in English.

A big role playing in the disclosure of the general abilities of students it is training English language. Initially characterize the nature of the disclosure of general abilities. In this context, the total ability needed for any activity and make a major contribution to the success of determination.

So, G.Perkins developed the theory of «intelligent threshold», where based on the weight of the correlation research states that for mastery of each activity needs a necessary and sufficient level of intelligence. If intelligence is the individual below this level, the individual cannot work, but exceeding of over the required level of intelligence does not provide productivity gains. The difference in the productivity of individuals whose intellect exceeds the «threshold» level will be determined by motivation, personality traits, etc., but no difference in intelligence. This effect applies to any activity.

There is a similar concept of creativity, which are the authors D.Gilford, E.P.Torrance and D.B.Bogoyavlenskaya. In particular, D.B.Bogoyavlenskaya emphasizes that the creativity is a common feature of the personality and affects the productivity of creative manifestations independently of sphere of personal activity [7; 89].

When forecasting the success of the school education, many psychologists have come to the conclusion that learning as a general learning ability, independent of intelligence and creativity.

Thus, based on the three-component model of the cognitive process, the structure of the overall ability is intelligence, creativity and learning. Learning is identified with ability responsible for the acquisition of experience. The general intelligence determines the productivity of the application experience. The creativity is related to the experience of transformation.

Disclosure is carried out by general abilities testing to identify the level of intelligence, creativity and learning.

The purposes of this phase are:

1) identification of children with a creative, unconventional, original thinking, to focus attention on the creatively gifted;

2) identification of mental development of children for the purpose is a leveling.

At this stage of development of creative abilities testing carried out kinds of thinking and mental operations.

2. The manifestation of the special abilities of the English language is the easy and quick assimilation of lexical and grammatical material.

3. The introduction of the student in a non-standard situation is carried out in studying different topics in English.

One of the important links in the proposed model is the introduction the student to the unusual situation, i.e. in the motivating environment, the conditions that would facilitate the disclosure of creative potential of personality on studies of English language.

The aim of the third phase of the process of development of creative abilities with teaching English is to create a problematic task, i.e., task that stems from a difficult situation and requires creative approaches to their solution. The main condition this task is the existence of contradictions — the struggle of opposing interests, desires or demands, when one of them excludes the other.

In the dialectic of contradiction are considered a natural source of development systems. The presence of contradictions is the main driving force of development in many theories, in the model of development of creative abilities of this concept is fundamental to the theory of inventive problem solving.

4. Thus, the *fourth stage is the identification of problems in accordance with students' abilities involves* finding contradictions.This approach has been widely implemented in the English lessons. There are several types of contradictions: administrative (identified disadvantages only); technical (clarifying an object that meets the conflicting requirements); the physical (are requirements to the properties of the object), social (conflict of interaction between people in all areas of their activities; pedagogical (conflicts of interaction between the desires of people in the field of education).

5. Construction of the problem is to formulate the theme of contradiction. The process of constructing the problem topic — a creative process is a partial solution of creative problems. In formulating contradictions are revealed important causal relationships, carried out detailed analysis of the situation. In formulating contradictions for complex tasks can identify several distinct differences. In such cases, they are ranked and resolved by the consistently. G.S.Altshuller, B.L.Zlotin developed several types of contradictions that can be written «in line», in the table form of or graphically. It used in the English language lessons.

6. Stage of the solving creative problems involves the use of specific methods of resolving contradictions. (For example, the resolution of contradictions by methods of the theory of inventive problem solving)

7. On the basis of the results students make tales in English language, legends, songs, revealing at the same literary, musical talents. At this stage children show its creative abilities in organizing the theatrical performance

8. Stage of the create alternative opening situations involves the student ability to predict future actions in the study of the English language, processes, modeling objects of activity.

9. Stages of study and protection of their own discoveries in a foreign language is the realization of the individual student as a scientific researcher, have a strong thinking that is the ultimate goal of development of creative abilities of the student.

Is necessary to note that the teachers analysis of the structure and content of the presented the stages of development of creative abilities of students, allows more targeted to organize and effectively manage the process of teaching.

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Ян Данек, П.З. Ишанов, А.Г. Улжабаева, Т.Е. Ералинова

Педагогикалық процестегі студенттердің шығармашылық қабілеттерін дамыту кезеңдерінің мазмұны

Мақалада студенттердің шығармашылық қабілеттерін дамыту мәселесін, әр түрлі оқу-танымдық қызметін іске асыру үшін ойлаудың барлық әдіс-тәсілдерді қолдануды үйлестіре отырып, студенттердің шығармашылық, сонымен қатар басқарылатын ойлауды қалыптастыруға бағытталған шығармашылық қабілеттерін дамытудағы алгоритмдеу рөлі анықталды. Студенттердің қабілеттерін өзектендіру бұл ғылыми шығармашылықты дамытудың маңызды бөлігі болып табылады. Авторлар студентердің шығармашылық қабілеттерін қалыптастырудың мәні ретінде терең ойлауды қарастырған, оған қоса назарды, еңбекқорлықты және де кең білімді дамытудың әдіс-тәсілдерін айқындап көрсетті.

Ян Данек, П.З. Ишанов, А.Г. Улжабаева, Т.Е. Ералинова

Содержание этапов развития творческих способностей обучающихся в педагогическом процессе

Авторами раскрыта проблема развития творческих способностей обучающихся, определены роль алгоритмизации в развитии творческих способностей обучающихся, сущность развития, направленная на формирование управляемого творческого мышления, сочетающая применение всех видов, способов, методик и приемов мышления с глубокими знаниями для успешного выполнения различных видов учебно-познавательной деятельности. Отмечено, что важную роль в развитии научной логики творческой деятельности играет актуализация способностей учащихся.

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