Components and Approaches in Didactic Model of Critical Thinking Formation in Primary Class Students

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ABSTRACT

This article discusses the pedagogical model of the formation of critical thinking in elementary school students. In particular, the pedagogical possibilities and conditions for the formation of critical thinking in students during the teaching of the subject "Education" in primary classes were researched.

General education programs that meet the requirements of the modern innovative economy, taking into account the special emphasis on the development of STEAM subjects and the competencies and skills of critical thinking, independent search and analysis of information, which are indicated as the expected results of the implementation of the Concept of the Development of the Public Education System of the Republic of Uzbekistan until 2030 In accordance with the implementation tasks, the goal of the model was to form critical thinking in students in the process of teaching "Upbringing".

Therefore, a didactic model was developed for the purpose of researching the pedagogical possibilities and conditions for the formation of critical thinking in students during the teaching of "Upbringing" in primary grades (Figure 1).

The adoption of the "Concept of Continuous Spiritual Education" in our country, the Concept of "Upbringing" for students of general secondary educational institutions, the development of the State Education Standard of general secondary education for the subject " Upbringing", as well as the formation of critical thinking scientific-theoretical ideas, the use of the possibilities of teaching " Upbringing " in primary classes is shown in the didactic model as a socio-pedagogical necessity of forming critical thinking in primary school students.

The following are emphasized in the model to form critical thinking in students in the process of teaching "Upbringing":

1) systematic-active;

2) person-oriented;

3) the need for innovative approaches.

A functional approach to education: The concept of educational technology refers to the whole (structural and substantive) structure of the pedagogical system.

In his article, the author D.H. Kuronov tried to clarify the specific aspects and relationships of systematic analysis and systematic approach and said that systematic analysis is a set of methods and tools used to study complex objects, that is, in other words, systematic analysis is not a separate method, but research. It emphasizes looking at the object as a general name for the actions aimed at knowing the object in detail and in depth using the methods selected based on the purpose, and the systematic approach allows the researcher to reveal the wholeness of the object and the mechanisms that ensure this wholeness, on the one hand, between the parts of the whole (components of the system), on the other hand, implies that it directs to determine its diverse and complex relations with the environment. It is clear that the systematic approach (and the systematic analysis applied to it as a synonym) is not a separate method, but a theoretical-methodological direction, a principle (Quronov, 2017). A system (from the Greek - system - made up of parts, combined) is a set of elements that form a whole and are in a certain relationship and connection with each other. A system is a self-contained entity in which an invariant order of interdependent and interacting parts creates its internal structure. It is an actionable structure in which action depends on specific goals (Голиш Л.В, 2012).

A systematic approach to the educational process requires, first of all, considering the managed object as a complex socio-economic, changing system, that is, to understand that several elements work in harmony and interdependence.
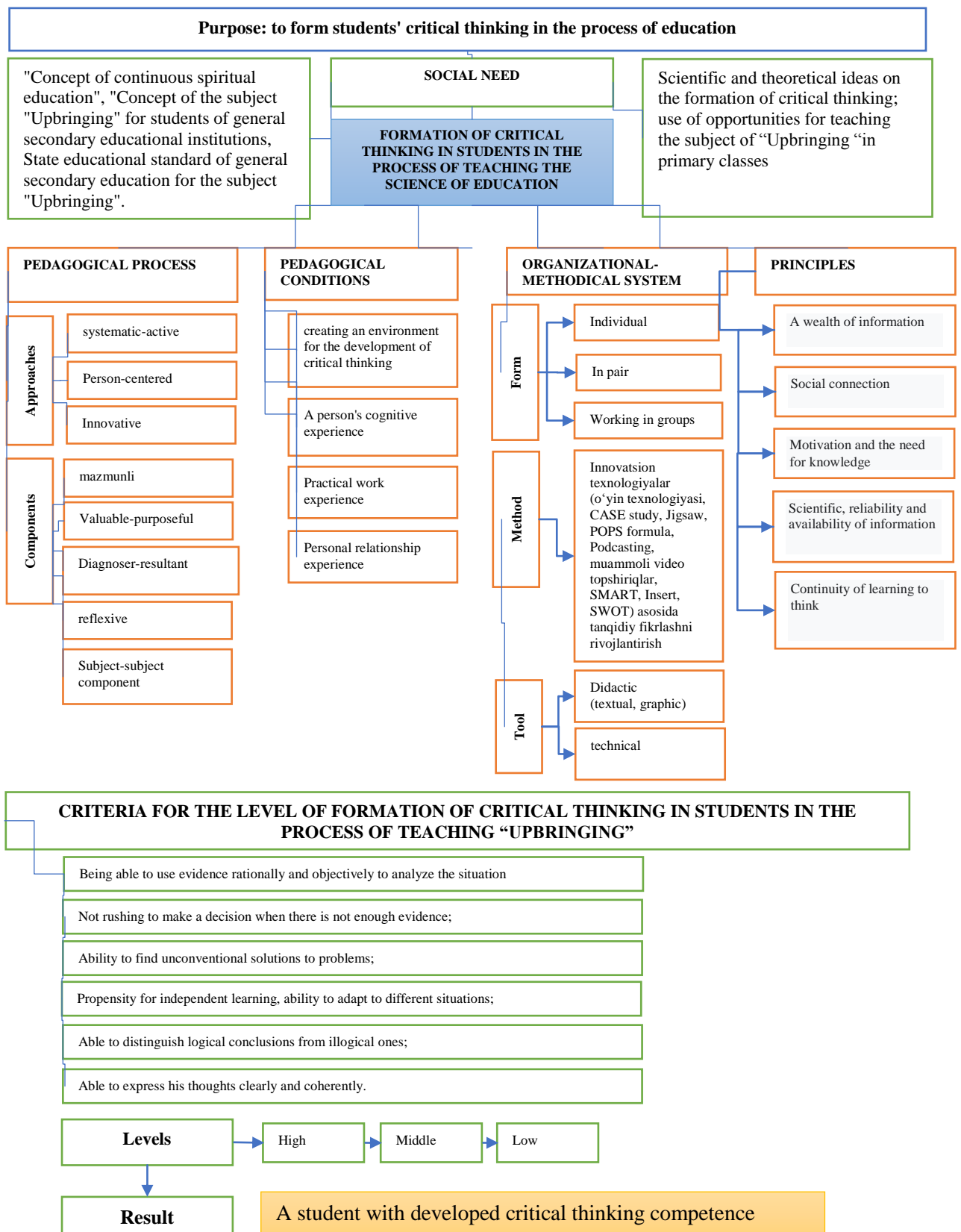
Purpose: to form students' critical thinking in the process of education

"Concept of continuous spiritual education", "Concept of the subject "Upbringing" for students of general secondary educational institutions, State educational standard of general secondary education for the subject "Upbringing".

SOCIAL NEED

FORMATION OF CRITICAL THINKING IN STUDENTS IN THE PROCESS OF TEACHING THE SCIENCE OF EDUCATION

Scientific and theoretical ideas on the formation of critical thinking; use of opportunities for teaching the subject of "Upbringing "in primary classes

PEDAGOGICAL PROCESS

Approaches
- systematic-active
- Person-centered
- Innovative

Components
- mazmunli
- Valuable-purposeful
- Diagnoser-resultant
- reflexive
- Subject-subject component

PEDAGOGICAL CONDITIONS

- creating an environment for the development of critical thinking
- A person's cognitive experience
- Practical work experience
- Personal relationship experience

ORGANIZATIONAL-METHODICAL SYSTEM

Form
- Individual
- In pair
- Working in groups

Method
- Innovatsion texnologiyalar (o'yin texnologiyasi, CASE study, Jigsaw, POPS formula, Podcasting, muammoli video topshiriqlar, SMART, Insert, SWOT) asosida tanqidiy fikrlashni rivojlantirish

Tool
- Didactic (textual, graphic)
- technical

PRINCIPLES

- A wealth of information
- Social connection
- Motivation and the need for knowledge
- Scientific, reliability and availability of information
- Continuity of learning to think

CRITERIA FOR THE LEVEL OF FORMATION OF CRITICAL THINKING IN STUDENTS IN THE PROCESS OF TEACHING "UPBRINGING"

- Being able to use evidence rationally and objectively to analyze the situation
- Not rushing to make a decision when there is not enough evidence;
- Ability to find unconventional solutions to problems;
- Propensity for independent learning, ability to adapt to different situations;
- Able to distinguish logical conclusions from illogical ones;
- Able to express his thoughts clearly and coherently.

Levels → High → Middle → Low

Result → A student with developed critical thinking competence

Figure 1. Didactic model of formation of students' critical thinking in the process of education

The system approach ensures that all the components of the managed object work harmoniously rejects a one-sided approach, and helps to eliminate imbalances and contradictions between different elements of the system, and therefore not only in relation to the object of management but also in relation to the management itself. should also be done.

One of the most basic concepts of the systematic approach is the concept of a system. In science, the concept of a system has many definitions.

L. Von-Bertalanffy defines the system as "a complex of parts in certain relations with the environment and each other".

A system is a set of interconnected, controllable elements with a certain structure, each performing separate tasks, directed to a single goal. System (system) is:

1) organized, interconnected and influencing pedagogical phenomenon;

2) a set of organized concepts (Джураев Р., 2008).

The essence of the systematic approach to teaching the science of education is as follows:

➢ clearly setting the issue and forming a target process:

➢ to get the greatest effect from the implementation of the set goals with the least expense;

➢ quantitative assessment of goals, methods and means of achieving them and assessment of all possibilities of achieving the planned results of activities.

According to experts, the systematic approach is a general methodological principle that can be used in human and social activities, as well as in various fields of science. Austrian biologist Ludwig von Bertalanffy is the founder of general systems theory. In the 20s of the last century, Bertalanfi studied the human organism as a system and published his general views in the book "The Theory of Modern Development" written in 1929.

In this book, he developed the basis for using a systematic approach to the study of biological organisms. In his work "Robots, People and Mind" written in 1967, he focused on the problem of analysis of general system theory and social life processes. In the book "General Theory of Systems" written in 1969, he turned his theory of systems into a general science.

A systematic approach to the formation of critical thinking in elementary school students in the course of teaching the science of "Education" includes the design of educational technology, from setting goals in advance and forming the results of activities to the creation of a diagnostic and control system of the path of the pedagogical and educational process. This not only ensures the achievement of the set goal, but also prevents the consequences of arbitrariness in the construction and implementation of the specified processes, and eliminates the possibility of correction during educational activities.

In the course of education, thorough and solid assimilation of knowledge by students takes place due to the result of their private learning activities. Therefore, activity is considered the basis, tool and decisive condition in the development of a person. This creates the formation of process qualities of the student's personality, the activation and acceleration of his actions, the expansion of all his possibilities, diligence and enthusiasm in the educational process.

The active approach to education implies a change in the teacher's role, which involves not only imparting knowledge, but also teaching students to independently search, analyze, compare, change, use them to solve their vital tasks, and quickly update and supplement their knowledge throughout their entire life path.

For this, the teacher should not be the first-class demonstrator of all correct solutions, but the organizer, consultant and supervisor of the educational process. It is intended to create the possibility of independent thinking and drawing effective conclusions by relying on the methods of mental action of students (knowledge, understanding, analysis, synthesis, application, evaluation...) by reducing the less effective verbal ways of imparting knowledge in educational activities.

In the process of teaching the science of education, it is important to turn the activity into an

object of mastery. The integration of a personal and developmental approach to education becomes a condition for increasing the efficiency of learning. Ensuring the high activity of the student in dialogue and polylogue in the process by implementing the forms of pair and group organization of education, supporting the independent activities of students in planning and organizing learning activities is the basis of an active approach to teaching critical thinking.

A personal approach means:

1. To direct the person to the goal, the superiority of the subject, the result and its effectiveness as the main criterion in the formation and implementation of the educational process.

1. In this case, it is necessary to provide comfortable, conflict-free and safe conditions for the free and creative development of the student's personality in all aspects, to rely on his natural capabilities, as well as the teacher's acceptance of the student's personality: his goals, excitement, interests, views, attitudes, recognition of their uniqueness, to him, it means believing in its power and capabilities.

2. To ensure the full development of all students during the educational process;

In the process of developing and implementing educational technology, the level of education in this field of knowledge and the level of the general development of personal culture;

➢   psychological and physiological characteristics of the learner;

➢   for each learner, in relation to the educational programs, his personal characteristics and the variability of his development under the influence of training are adapted according to his capabilities;

➢   to help him in his knowledge, self-identification, self-development and self-realization.

3. Individualization and classification of the educational process; Orienting the student's personality to the path of development in accordance with the requirements of the "Continuous Spiritual Education Concept";

4. Taking into account the psychological and personal characteristics and abilities of learners.

Development and implementation of technologies for the development of general pedagogic skills of the learner not only in professional quality but also as a person, in order to determine and then correct the learner's prospects for development and fading, objective control and diagnosis of his personal development.

5. Ensuring the personal interests of the participants of the educational process. This goal can be considered achieved only when training and personal development have a vital and professional essence for the teacher and the learner when a strong interest in this activity arises and when training and development become a vital need of a person.

Modern pedagogical technologies are a uniquely innovative approach to the educational process. It is of great importance that primary school teachers who teach the subject of "education" have the skills and qualifications for innovative activities. In order for teachers to master the skills and competencies of innovative activities, they need to have an innovative approach. According to its essence, the acquisition of skills and competencies of innovative activity takes place on the basis of finding an innovative approach to them.

The authors N. Muslimov, M. Usmonboeva and others describe the decision-making stages of the innovative approach in pedagogues as follows (Figure 2):
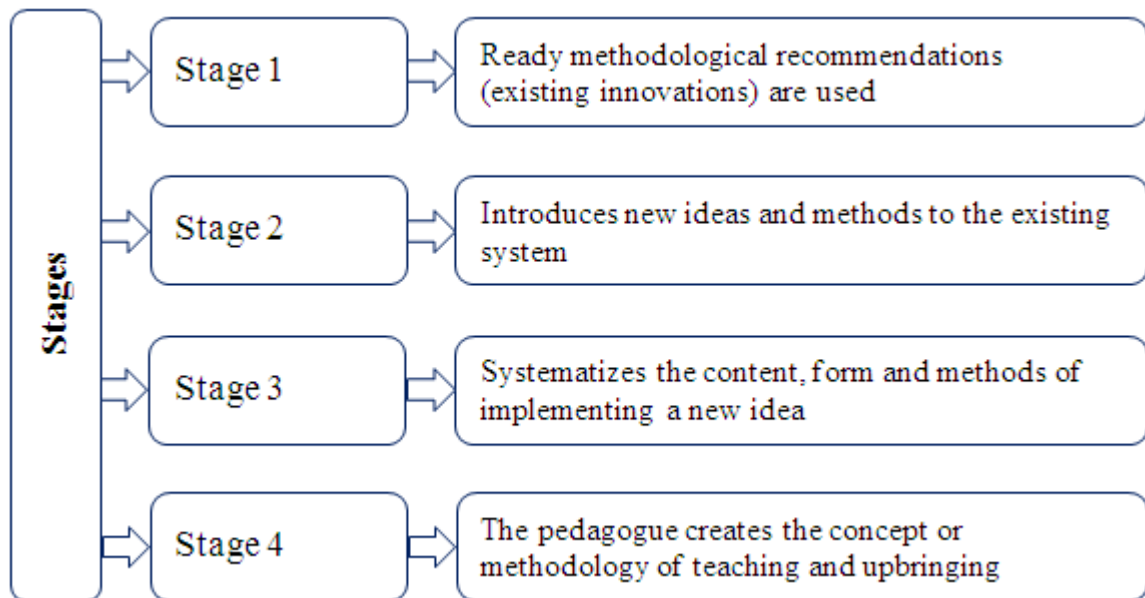
Figure 2. Decision-making stages of the innovative approach

At the modern stage, globalization and the informatization of society require the use of effective methods and tools in the educational process in non-traditional forms, as well as an innovative approach to the formation and use of educational materials. Because pedagogical innovations change the internal structure of the pedagogical system.

The innovative approach of teachers to the teaching of "Education" in primary grades helps to achieve the intended goal, i.e. to guarantee the teaching of critical thinking, as well as to increase the quality and efficiency of education, and to increase the cognitive activity of students.

In the process of teaching the science of education, it takes into account the uniqueness of the formation of critical thinking in students and covers the following structural components:

✓ meaningful;

✓ valuable-targeted:

✓ diagnostic-resultative:

✓ reflexive;

✓ subject-subject component.

In the content component, as the main factor of fundamental improvement of the quality of education, the adaptation of educational programs and methodological manuals for teachers to advanced international programs is envisaged. In order to develop analytical, non-standard, critical and creative thinking skills of elementary school students, textbooks with their updated form and content are important. In recent years, certain measures have been taken to improve the content of education.

Because the lack of diversity in the system of creating existing textbooks remains a factor in the monopolization of their creation and publication and negatively affects their content, methodology and publication quality, despite the fact that the state education standards are based on a competency approach, teaching and evaluation methods, as well as textbooks and other educational materials are mainly focused on memorization and presentation of information, which hinders the development of critical thinking, skills of independent search and analysis of information and other skills, it is required to improve the quality of used textbooks, to establish the practice of using foreign educational manuals as additional or alternative educational materials obstacles to improving the quality of education are among the existing problems. In

order to solve these problems, the "National Program for the Development of public education in 2022-2026" was approved (Lex.uz., 2022).

Forming the knowledge and skills of schoolchildren in the national program, educating them in the spirit of loyalty to national and universal values, increasing the prestige of the teaching profession and the quality of pedagogues, improving textbooks and educational methodical complexes based on the requirements of the times, establishing modern models of public education institutions that meet international standards. the need was emphasized and, in accordance with the measures defined in the program, to create textbooks, exercise books and teaching guides for pedagogues based on the National Curriculum, to create interactive virtual educational platforms (SmartLand, Edumarket, etc.)) organization of content enrichment; Mechanisms for preparing scientific-popular short animated video clips (Edukids) were developed for school students.

According to the Decision of the Cabinet of Ministers of the Republic of Uzbekistan "On measures to gradually implement the science of "Education" in general secondary educational institutions," special attention was paid to the issue. Annex 1 of the decision specifies the following as the scientific and methodical basis for introducing the concept of "Education" for students of general secondary education institutions:

➢ Formation of qualification requirements, training programs and training plans for the subject "Education";

➢ Introduction of effective educational technologies in the creation of "Education" textbooks;

➢ Creation of an educational-methodological complex of "Education" science and directing it into practice;

➢ achieving full mastery of manners, knowledge, skills and competencies by students based on the requirements of state educational standards (Lex.uz (2), 2020).

As a result of the implementation of the above-mentioned measures and tasks, textbooks on "Education" were created for grades 1-4. The content, structure, and creation of textbooks based on modern requirements are of great importance. "Education" textbooks are aimed at creating conditions for organizing independent learning and developing creative and critical thinking in students. The function of these textbooks is not to transmit information but to organize the activity of the teacher and student based on innovative technologies, approaching independent education.

In our opinion, modern textbooks should be aimed at creating conditions for organizing independent learning and developing creative thinking in students based on a differentiated approach. According to a number of researchers, educational literature should be a tool that enables critical thinking. The lectures of each subject are taught on a critical basis with a problem-based approach, which increases students' interest in learning, as well as critical-thinking educational literature, they try to strengthen their opinion based on a number of points, strive to communicate with the pedagogue who gave the lecture, and express their own opinion. - find ways to express opinions.

Therefore, the student improves his knowledge based on critical thoughts and demonstrates the ability to think in any situation.

The formation of value-oriented consciousness takes place on the basis of a person's acceptance of universal, cultural, spiritual-ethical and ethnic values. Thus, a core of values is created that a person is ready to transfer through his actions.

It is important to direct the educational system and the entire educational process to the development of the individual, the predominance of universal values, and the optimization of the interaction of individuals.

Affective (emotional-emotional) sphere. It includes the goals that form the student's emotional-personal attitude towards the surrounding world, starting from the readiness to master simple perceptions, interests, value orientations and relationships. Interest and inclination, the ability to sympathize with one or another experience, attitude to events, understanding and the manifestation of it in one's activities are among these.

Value (axiological) approach - culture is understood as the content of human life

Value is a concept that shows the positive or negative significance of the surrounding things or a person for society, and it is the criterion and method of evaluating this concept expressed in moral principles, ideas, guidelines and goals. Values include universal human values - certain moral standards, and advanced, progressive cultural heritage. Value is a set of all things and events (subjects and processes) that are valuable to a person, meaning dignity. Values are valuable not only for the past, but also for the present and future development, and they have a positive impact on the development of society. One of the important links of values is spiritual values. Spiritual values, in turn, are a set of artistic, religious, aesthetic, philosophical, moral, educational, and cultural values.

Reflective component. The reflexive approach - (Latin reflixio - return) is considered the process of knowing the subject's own (inner) mental feelings and states.

The psychological dictionary gives the following explanation: "Reflection is not only the subject's self-knowledge and understanding but also means that others determine the knowledge and understanding of his personal characteristics, feelings and cognitive (cognitive) perceptions.

Reasoning, thinking is a characteristic of human nature. With its help, everyone has the opportunity to evaluate and revise their behavior. Usually, thinking has a strong influence on a person's mood and behavior. If we pay attention to the way of thinking of many people, they tend to think about insignificant, unnecessary things and events, spending a lot of time and emotional energy on this.

So, what is the cause of this negative situation and how to eliminate it? First of all, this happens as a result of incomplete mastery of reflexive activity in a person.

In psychology, reflection is called the ability of a person to evaluate himself as a full-fledged individual within the framework of the society in which he exists. Reflection covers many aspects, such as self-awareness of a person, assessment of his spiritual and moral qualities, and rethinking of his actions.

Reflexivity plays an important role in teaching primary school students to think critically. Because every topic covered in the subject "Education" reflects the relationships, realities, lifestyles and activities that the student encounters in his life and with others, and ensures the assimilation of social norms and values.

In this process, the student feels this reality, thinks critically, reflects and draws certain conclusions. The student reflects on the subject, tries to look at himself from the outside, and critically evaluates how adequate his behaviour is to the people around him, and his moral appearance.

It is an important personality-forming mechanism that determines behavioural models and affects perception, reaction to events in the future, decision-making, and other individual aspects of the student's behaviour and character. Reflexive activity means the student's desire to realize his inner self-knowledge, his uniqueness and his worth.

Philosopher and anthropologist Pierre Teilhard de Chardin said that reflection means not only the existence of knowledge but also the ability to analyze and evaluate the level of this knowledge.

Reflexivity performs the following functions in the process of teaching the subject "Education",

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influencing the perception of students:

- ✓ get rid of wrong and superficial thinking;
- ✓ formation of logical thinking;
- ✓ striving to control one's thoughts and actions;
- ✓ to understand one's positive aspects and shortcomings;
- ✓ self-critical development;
- ✓ formation of the ability to see the correlation between actions and their consequences;
- ✓ to search for solutions to complex problems, to be able to justify arguments;
- ✓ finding hidden talents and abilities.

All of the above points show the positive aspects of reflexive activity, but thinking too much about one's mistakes in reflection can sometimes have negative consequences. In this case, low self-esteem and limitations can be observed, therefore, pedagogues need to teach students to think consciously (reflection-reflection) without harming their psyche.

Thinking helps a person to understand appearance, so it is one of the most important mechanisms of personal development. Under its influence, a person engages in introspection, forms necessary habits, and learns to better understand the connection between his actions and the events that follow them. This ensures the development of one of the most important components of our intelligence - the ability to foresee the consequences of our actions.

So, reflexivity helps students to critically look at themselves and their behaviour, compare themselves with others, and analyze and evaluate their own behaviour.

The issue of reflexivity was first studied in psychology by B. G. Ananev, L. G. Vygotsky, S. L. Rubinstein, and scientists interpreted reflection as a principle explaining the development of self-awareness and psyche.

In the work of researchers in the field of psychology, reflection has been studied in cognitive, genetic, personality and communicative aspects (Charden., 1987). When teaching primary school students to think critically, reflection as one of the mechanisms of thinking provides the following processes in educational activities:

- ➢ to understand predetermined educational tasks and results;
- ➢ comparing the tasks required for the future activity with the needs;
- ➢ motivation of educational activities, understanding and mastering of the educational material with the help of logical connections between the elements of the educational material and memorization of the content;
- ➢ evaluation and correction and correction of the achieved results;
- ➢ solving tasks and requirements by means of comparison methods and schemes by analyzing and summarizing the results of problems;
- ➢ self-management and self-control with the help of feedback in educational activities is the result of reflection, development and change of learners and their activation as subjects of educational activities.

Primary school teachers can shape the reflexive activity of students with the help of various views of the process of teaching "Education" and innovative technologies. The use of reflexive exercises and educational tasks based on innovative technologies serves as a means of guiding students away from traditional thinking and towards logical and critical thinking. As a result, students achieve thorough and solid mastery of the topics. Problem-based learning technology is

especially important in teaching students to think critically based on reflexive activity.

Below, we refer to the sequence of formation of reflexive competencies in students by means of problem-based education by O.S. Anisimov (Anisimov O., 2012) (Table 1):

Table 1. The sequence of formation of students' reflection competencies according to O.S. Anisimov,.

Step 1	Research	What did I do and how?
Step 2	Critical	Why couldn't I? - What did I do wrong? - What do I not know and why?
Step 3	Help	What can help me solve this problem?
Step 4	Prognosis (prediction)	How can I solve this problem? What should I do for this?
Step 5	Faoliyat	I will take these steps to remedy the situation

In teaching primary school students to think critically, independent search for knowledge is a prerequisite for successful achievement of the intended results. It is known that the acquisition of knowledge is a continuous process without limits. This is especially important in today's information age when knowledge is changing rapidly.

In the process of teaching critical thinking, the development of a conscious attitude towards educational activities in the student's personality is inextricably linked with the characteristics of their self-awareness system. Therefore, reflexive activity motivates the student not only to analyze himself but also to understand the surrounding people and events.

The diagnostic-resultative component is important in analyzing the effectiveness of the process of teaching students to think critically, in determining the level of development of students in accordance with the criteria of critical thinking.

Diagnosis is the study of the characteristics of students, the knowledge, skills and abilities they have acquired, and the available material and technical opportunities.

Diagnosis allows for the need to adjust the goal and to choose the means to achieve them.

Teaching primary school students to think critically in the field of "Education":

✓ setting specific goals;

✓ orientation to the guaranteed achievement of diagnostically defined goals, as a criterion limiting the final educational results;

✓ development of criteria and guidelines for measuring the quality of obtained results;

✓ it is necessary to take into account that the final result is aimed at making a true diagnosis.

That is why a basis is needed to move from the voluntary construction and implementation of the educational process to a consistent assessment of each of its parts and stages, aimed at a true diagnosis of the final result. This basis is innovative technologies that provide a guarantee of effective results and achievement of educational goals.

Even if one of the constituent elements of the pedagogical system is not present in the technological process, then the educational process will not be fully implemented, and positive results will not be achieved. That is why a diagnostic-resultative component is needed in the process of teaching students to think critically, that is, diagnostic-resultative analysis requires the use of ways and means of measuring the effectiveness of the results achieved in teaching students to think critically.

However, educational activity, the process of teaching critical thinking has a personal-subjective nature, it also has the nature of authorship, individual, creative, i.e. creating the process itself, so

sometimes it is allowed to deviate from the established order in educational technology. . In this case, the educational results achieved by the subject in the implementation of this technology will have a delayed, variable character. Even so, the result achieved in any case is somewhat close to the average.

Effectiveness is a concept that expresses the average value of mastering in the classroom, and a measurable set goal - it represents the determination of the dynamics of mastering specific concepts, actions and types of activities mastered by the student as a product of the didactic process, that is, the teaching goals are expressed through the educational results set in the student's actions.

In teaching students to think critically, the purpose of the topics taught in the subject of "Education" should be defined clearly and clearly. Such determination of educational goals creates an opportunity to draw conclusions regarding the organization and implementation of the didactic process focused on critical thinking when it is known and implemented. In this case, the goal of the educational process is based on the content of the social order and the mutual compatibility of the models of the student's personality.

Modern pedagogy addresses the child as a subject of educational activity as a person striving for self-realization.

In teaching primary school students to think critically, the educational process should rely on "subject-subject" relationships. Because the educational technologies used to teach critical thinking in the process of teaching the subject "Education" change and update the status of the student by updating the information content and modeling levels - learning material, processing the subject, adapting the studied subject to the real knowledge capabilities of the student, methods and tools for raising and evaluating the results of education to the accepted benchmark level, as well as require a non-traditional approach to the organizational forms of education.

The teacher's monitoring of the behavior and activities of each student, filling the data bank and using the "portrait" of the student (thinking, interest in subjects, attention, etc.) formed from this information in teaching increases the effectiveness of education.

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