Research Article

Refining The Formation Of Historical Thinking In The Future Teacher Of History Through Artistic And Historical Literature

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Abstract.: In this research paper given advancement of the higher instruction pattern, related with the change of the instructive framework of sthe Republic of Uzbekistan as a entirety, highlighted the concept of wide improvement of the person, to be specific, "educating youthful individuals as profoundly wealthy and physically created people with tall information and most profound sense of being, expanding the specialist of pioneers and instructors of instructive educate, making the conditions essential for their viable exercises. " In line with the rising patterns, the foremost vital errand of the proficient preparing of a cutting edge instructor is the arrangement of complex verifiable considering, able of combining hypothetical and common compassionate information into an necessarily framework of information almost instructional method, the laws of its improvement, coordinating hypothetical instructing to understanding viable and inventive issues, preparing the educator with the strategy of autonomous ponder of different marvels of academic societies of successful, erotic and proportion.

Keywords: education and teachers, history, historical literature, logicians, psychologists, psychological analysis.

Introduction

The formation of the teacher's historical thinking has a content, logical and psychological aspect. This triad has become the subject of intensive research by logicians, psychologists, and educators (OA Abdullina, M.N. Alekseev, T.D. Andronova, T.I. Guseva, I.V. Dubrovina, M.M. Kashapov, YN Kuliutkin, AK Markova, EK Osipova, VA Slastenin, AM Sokhor, VE Tamarin, YS Turbovskaya). To solve the problem of the teacher's professional thinking, the activity approach presented in the works of B.F. Lomova, O.A. Konopkina, D.A. Oshanina, G.M. Zarakovsky, V.D. Shadrikova, A.V. Karpova, V.N. Druzhinin, Yu.P. Povarenkov and others. This concept is most fully covered in the works of V.D. Shadrikov and his students, since from the very beginning their research was focused on the psychological analysis of historical activity.

Performing some functions, the teacher's thinking approaches scientific and pedagogical, while performing other functions, it approaches intuitively practical. At the same time, any of these functions is impossible without the teacher's creative approach to the object of activity and cognition.

According to scientific research, seven functions of the teacher's historical thinking can be distinguished, and five of them (explanatory, diagnostic, prognostic, projective, reflexive) are associated with the forms and methods of scientific thinking. However, all functions, including the last two (management and correction of the pedagogical process, as well as communicative), imply, to one degree or another, creative mental actions. B.S. Gershunsky, arguing that "even the most stereotypical situations in the management of pedagogical processes contain a certain element of creativity, since they are performed under individual conditions".

A new stage in the development of the higher education system, associated with the reform of the educational system of the Republic of Uzbekistan as a whole, highlighted the concept of broad development of the individual, namely, "educating young people as spiritually rich and physically developed individuals with high knowledge and spirituality, increasing the authority of leaders and teachers of educational institutions, creating the conditions necessary for them to carry out effective activities "[Decree of the President [Decree of the President of the Republic of Uzbekistan" On measures for the development of education and upbringing, science in the new period of development of Uzbekistan "No. UP-6108 dated 06.11.2020]

Methods of research.

In line with the emerging trends, the most important task of the professional training of a modern teacher is the formation of complex historical thinking, capable of combining theoretical and general humanitarian knowledge into an integral system of knowledge about pedagogy, the laws of its development, directing theoretical teaching to solving practical and creative problems, equipping the teacher with the method of independent study of various phenomena of pedagogical cultures of effective, sensual and rational, empirical and theoretical, etc .; logic explores the forms, rules and operations of thinking; cybernetics sets the tasks of technical modeling of mental operations in the form of "artificial intelligence"; psychology studies thinking as an actual activity of the subject, motivated by needs and aimed at achieving subjective goals; linguistics deals

with the relationship between thinking and language; aesthetics analyzes thinking in the process of creation and perception of artistic values; neurophysiology deals with the brain substrate and physiological mechanisms of thinking[2,4,5].

At the present stage of the development of society, when global changes (economic, technological, social) have transformed all aspects of the life of society and, most importantly, as noted by Dr. Sciences, Professor DI Feldstein, caused qualitative changes in the person himself - his perception, consciousness, thinking. For the development of the country's innovative economy, society needs specialists with a high intellectual level, who know the culture of thinking, who know its general laws, who are able to correctly (logically) formalize its results in written and oral speech. However, the traditional education system has exhausted itself, since it has not yet developed new ways, methods, means of forming the younger generation. The development of students' thinking in the educational process of the university is now increasingly attracting the attention of teachers, since many researchers have noted a decrease in the level of intellectual development of students, their perception of only units of knowledge that do not include them in the system of concepts and ideas.

Socio-economic conditions, educational practice determine the need for students to develop “new” (DI Feldstein) “innovative” (VP Andronov, PP Luzan, VS Bochko) thinking that meets the challenges of the time. For its formation in the educational process, it is necessary to consider the essence, structure, forms, stages, functions of thinking based on the analysis of psychological and pedagogical literature.

Thinking is the subject of study of a number of sciences: philosophy, logic, psychology, pedagogy and therefore has many definitions depending on the points of view of the sciences studying this process.

A.G. Spirkina, S.S.Averentseva thinking is defined as the highest cognitive ability, as an active process of purposeful, generalized and mediated reflection in the human mind of objective reality in statements, concepts, judgments, by creatively creating new ideas and predicting events, which is the highest level of cognition.

In the definitions of thinking, given in the philosophical dictionaries edited by S. I. Ozhegov, I. T. Frolov, it is indicated that thinking is associated with the solution of certain problems. In general, the philosophical understanding of thinking is based on the dialectical nature of cognition as an active process of reflection of the external world in consciousness, with an active role of the subject as a social being in this process.

Thinking is one of the main categories of psychology. The complexity of the phenomenon of thinking, its multidimensionality is revealed in the diverse definitions of this concept, which reveal its various aspects, thereby complementing each other. In most definitions, thinking is considered by psychologists (V.V.Bogoslovsky, A.A.Krylov, B.G. Meshcheryakov,

V. P. Zinchenko, A. V. Petrovsky, M. G. Yaroshevsky, A. A. Krylov and others) as a mental process carried out as a result of human mental activity, as "the highest form of mental reflection" (E. I. Bondarchuk, L.I.Bondarchuk, 2002), as “a form of internal activity” (G.G. Granatov, 2000). It is noted that the process of thinking is “a complex systemic process (V. V. Selivanov), socially conditioned, inextricably linked with speech (A. V. Petrovsky, M. G. Yaroshevsky, A. A. Krylov), aimed at the establishment of connections and relationships between cognizable objects and phenomena, in the search for the discovery of new knowledge, which is an indirect and generalized reflection of reality. At the heart of this thinking process, the subject analyzes (synthesizes, generalizes, etc.) the data (images) received by the “lower” cognitive processes ”.

From the point of view of pedagogy, the cognitive side of thinking, noted by psychologists, is important for us, which consists in the active processing of existing and newly received information, carried out in the process of solving problems, discovering new knowledge. In this aspect, thinking is viewed as a system of interrelated actions (operations) that are performed by a person in the process of his mental activity. Therefore, one of the pedagogical aspects of the development of thinking is the formation of skills for working with information, its comprehension, transformation, thereby the formation of general educational skills, methods of activity[6, p. 8; 7, p. 10].

In general, in domestic and foreign psychology, from the position of the activity approach, thinking is considered as "a process of human cognitive activity, characterized by a generalized, indirect reflection of objects and phenomena of reality in their essential connections and relationships", which is based on a complex of cognitive, meta-cognitive skills, skills and attitudes (A.L. Radugina, A.A. Krylov, Z.I. Kalmykova, S.L. Rubinstein, M.A.Kholodnaya, D. Johnson, D. Halpern, R. Paul, D. Kluster and others).

The generalized nature of thinking is manifested in the reflection of general and essential properties, objects and phenomena that are not perceived directly, as well as relations and regular connections between them in various forms - concepts, categories, judgments, inferences, hypotheses, laws, theories. They generalize and consolidate the cognitive, socio-historical experience of mankind with the help of means of thinking (actions, image, logic), which makes thinking mediated. Since thinking means analyzing concepts (revealing them in terms of content and volume), synthesizing concepts (formulating inferences), organically combining formal logic and the theory of knowledge, the formation of these skills is pedagogically valuable. The theory

and technology of the Method of Dialectical Education (V. L. Zorina), which is based on the relationship between the concept and the verbal image in the content of the taught discipline, contributes to the formation of systemic knowledge among students. However, this method has not found wide application in the educational process of schools and universities.

From the standpoint of the development of the student's personality, the personal plan and the procedural aspect of thinking, identified by S.L. Rubinstein, A.V. Brushlinsky, are valuable. Thinking appears in connection with the emergence of needs for knowledge, aimed at goals that have personal significance and are manifested in the cognitive activity of the subject, forming a personal plan, which determines the need in the educational process to form motivation to acquire new knowledge. Psychologists associate the procedural aspect of thinking with the formation within the cognitive activity of the subject of a search and discovery of a substantially new, generating intellectual operations, mental processes (analysis, synthesis and generalization), through which a person solves mental problems.

AM Matyushkin singles out the rational aspect in thinking, which analyzes, compares, evaluates, generalizes and draws conclusions, and the creative aspect, which does the same thing, but foresees and generates new ideas. The creation of new knowledge, as a theoretical basis for the development of applied innovations, as noted by P.P. Luzan, is the essence of scientific thinking, innovative in its essence. The development of this type of thinking is based on the formation of a system of research knowledge focused on preparing university graduates for scientific research, for applied developments based on them, which is practically absent in the traditional system of education at a university. Therefore, universities need to modernize training programs, which would include the development of the research method in the study of natural science disciplines.

However, in the conditions of training bachelors, the research work of students is not planned. Therefore, one of the options for attracting students to research work is the organization of interdisciplinary groups (ISUG) of students of all levels of education and teachers of the departments of natural science training and special disciplines working on the same problem. Such groups have already been created at the Higher School of Economics and the Siberian Federal University. So, in SFU, on the basis of the departments of chemistry and special disciplines (Foundry of ferrous and non-ferrous metals and metallurgy of non-ferrous metals), first-year students, together with teachers and senior students, work on the problem of "Improving the quality of castings" and "Extraction of non-ferrous metals from recycled materials." All this requires a strengthening of the role of interdisciplinary connections in the process of studying at a university, which makes it possible to apply knowledge and skills in specific situations, when considering particular issues, both in educational and professional life, and serves as the strongest motivating factor in the study of natural science disciplines.

Thus, relying on the main substantive components of the subject of cognition's thinking, when solving problems, we will single out its procedural components: 1) thought processes (analysis, synthesis, generalization, abstraction, analysis through synthesis); 2) mental actions, operations (for example, mathematical operations: addition - subtraction, etc.); 3) forms of thinking (concept, judgment, inference) and emotional and personal characteristics that are actualized in the course of thinking (cognitive and nonspecific motivation, properties that make up consciousness, abilities, the system of existing knowledge and concepts). The totality of the manifestation of all components of thinking in the educational process, teachers associate with the inclusion of students in the process of solving problems, problem situations that are personally significant, professionally oriented.[2,4,7]

Thinking arises in a problem situation, with a lack of available knowledge, methods of action. The problem that has arisen triggers the thinking process, allows you to set goals, as well as control, direct and evaluate the thinking process as a whole. From the point of view of pedagogy, it is important that it is possible to organize the process of a student's cognitive activity by methods of problem learning. In particular, this is the development of a system of educational and professional tasks, problems aimed at the development of professional and personal qualities of students. The process of solving these problems presupposes the use of different types of educational activity, in which the scheme of mental activity is feasible: 1) setting the problem and limiting the search area; 2) building a hypothesis and testing it; 3) reflection of actions and results after testing the hypothesis (awareness of the results and solutions). The way of organizing such cognitive activity, including elements of research, also becomes the way of thinking of students.

Setting the goal of the student's personality development in the process of teaching any discipline, teachers are guided mainly by three types of thinking: visual-effective, visual-figurative, verbal-logical. The first part of the name fixes the form in which the conditions of the problem are presented, and the second part fixes the means (method) of knowing the world around. At the same time, it must be borne in mind that by the type of the problem being solved, visual-effective, visual-figurative, verbal-logical thinking are distinguished, and by the nature of the problem being solved - theoretical and practical; according to the degree of development, awareness and stages - analytical and intuitive; according to the effectiveness of control (according to the degree of criticality of the mind) - critical and non-critical thinking; according to the degree of novelty of the product obtained in the process of mental activity - reproductive and productive (creative). Unfortunately, in the

psychological literature there is no clear name for these types of thinking, which makes it difficult to use the psychological theory of thinking in practical pedagogical activity. The above list of types of thinking, as psychologists note, is not complete, there are complex relationships between them that have not yet been identified and are manifested in the process of thinking. In this regard, a special role in the development of thinking is played by the purposeful development of all forms of thinking in the educational process. Therefore, before the teacher, the subject activity carried out at any stage of training is faced with the task of methodological support of the discipline, focused on all types of thinking. For this purpose, it is necessary to develop special exercises and tasks. For example, for the formation and development of students' critical thinking, as the most important component of the professional competence of a university graduate, the development of intellectual skills and abilities becomes important. So, the formation of the ability to reasonably express their own opinion on the issue under consideration requires the development of tasks that include the student in the assessment activity: assessment of the objectivity of value judgments, from the standpoint of logic; search for errors, shortcomings, value components in the studied subject, phenomena. In addition, scientists note the importance of the formation of skills to independently work with information, identify contradictions, test hypotheses, search for alternative ways to solve problems, as well as reflexive skills, the development of which was practically not carried out in traditional teaching, which is focused mainly on the development of reproductive thinking (work on the sample).

Substantial components of thinking, at different levels of mental activity, exhibit different functions. Among them, psychologists note: procedural (thought processes: analysis, synthesis, generalization); operational (actions, operations, forms); semantic (dynamics of meanings); emotional; intuitive.

Based on the analysis of the definitions of "thinking", accepting the highlighted aspects, the functions of thinking given by scientists in the philosophical, psychological and pedagogical literature, from the point of view of pedagogy, the following main functions of thinking can be distinguished, the manifestation of which in the educational process is based on independence, which expresses the subject position of the student:

- the discovery of new knowledge (productivity of thinking), based on the processing and transformation of information, the subconscious use of past experience, in the presence of an initial minimum of knowledge, focusing on the subject of research using reflection, as a leading component of abstract, theoretical thinking and the main mechanism of thinking, which allows to highlight and analyze your ways of doing things;

- prediction of an unknown solution to a problem and a problem, in the presence of an attitude towards mental activity (an unconscious state of readiness for action, which determines the specifics of all mental activity).

Taking into account the peculiarities of the student's educational and cognitive activity at the university, the pedagogical aspect of the concept of thinking is important for us. The analysis of the sources showed that in the pedagogical literature there are definitions of thinking, both philosophical and psychological. Without denying the right to their existence, we believe that the understanding of thinking should be a complex representation, including both the essence and the functions of thinking. Therefore, by thinking we mean the active cognitive activity of the subject, aimed at purposeful, generalized, mediated cognition of objective reality, the discovery of new knowledge, forecasting events, actions in the course of solving problems, problems, based on the processing and transformation of information, with the subconscious use of past experience and the initial minimum of knowledge, oriented towards the subject of research using reflection. At the same time, as psychologists note, the educational and cognitive activity of a student should include actions of an orientation, research, transformative and cognitive nature.

Concept - is a form of thinking, reflecting the common features of things and phenomena, is formed using well-known logical methods of comparison, analysis, synthesis, abstraction, generalization.

Judgment is a form of thinking that expresses the relationship of some property to an object, or the non-correspondence of their other to another, and also in the process of thinking we learn, together with ordinary, external features of objects and phenomena, the necessary internal connections and relationships.

Draw conclusions - as a result of the logical connection of several judgments, a new judgment is formed. To draw conclusions is a kind of connection of the middle thought as a result of which a third proposition is woven out of one or more of one proposition. Inference is divided into three types: inductive, deductive, and similar.

The laws of thinking are the requirements necessary for the correct construction of the discussion, the necessary connections existing between thoughts in the process of discussion. The laws of thinking consist of the following: accuracy of thought, consistency and systematicity of thought, the process of thinking should have the peculiarity of lasting without contradictions, in the process of thinking, use accurate and truthful reasoning, etc.

German classical philosophy, which developed an idealistic understanding of thinking, put forward the fruitful idea of the subject's activity in thinking, which influenced the formation of the Marxist concept.

Thinking has often found itself at the center of philosophical discussions between various philosophical schools and trends. F. Hegel tried to summarize the discussions through the construction of a system of idealism

that ensures the unity of logic, ontology, and the theory of knowledge. Hegel's understanding of thinking contributed to the assertion of the metaphysical monism of being and thinking. The unity of logic, ontology and the theory of knowledge could be ensured through the construction of three philosophical disciplines on general methodological principles, therefore, the task was for the first time to present thinking as an object of research.

Dialectical materialism considers thinking as "the highest form of active reflection of objective reality, consisting in purposeful, mediated and generalized cognition by the subject of the essential connections and relationships of objects and phenomena, in the creative creation of new ideas, in predicting events and actions". An analysis of modern psychological literature has shown that the task of thinking is to reveal relationships between objects, to identify connections and separate them from random coincidences. Thinking operates with concepts and assumes the functions of generalization and planning, as well as indirect reflection of reality in its essential connections and relationships; representing a process of cognitive activity, in which the subject operates with various types of generalizations, including images, concepts and categories. The essence of thinking is in performing some cognitive operations with images in the internal picture of the world. These operations make it possible to build and complete a changing model of the world.

In the theory of activity, thinking is understood as a life-time forming ability to solve various problems and to transform reality in an expedient manner, aimed at revealing its sides hidden from direct observation.

From the point of S. L. Rubinstein, mental activity is determined by the object, indirectly, through its internal specific patterns (goals, motives), according to the principle "external through internal". All external influences mediating the active role of internal conditions (goals and motivation for thinking) determine which of the external causes participate in a single process of determining the subject's life. In other words, the effect of external causes acting only through internal conditions depends significantly on the latter [1,4,7,9].

Divergence of thinking is characterized by the absence of a rigid connection between phenomena, causes and their consequences. Divergent thinking is thinking in different directions, which involves several or many answers to one question. Divergent thinking is based on a deep general awareness of the individual, the breadth of his horizons, perception, activates the ability to evaluate, compare, hypothesize, analyze and classify the material obtained, and draw analogies. Divergent thinking is characterized by greater internal freedom and, in most cases, leads to productive results. To determine the level of creativity, J. Guilford outlined hypothetical intellectual abilities that characterize divergent thinking:

- fluency of thought - the number of ideas that arise per unit of time;

- flexibility of thought - the ability to switch from one idea to another;

- originality - the ability to produce ideas that differ from the generally accepted views;

- curiosity - sensitivity to problems in the surrounding world;

- the ability to develop a hypothesis;

- unreality - the logical independence of the reaction from the stimulus;

- fantastic - complete isolation of the response from reality in the presence of a logical connection between the stimulus and the response;

- the ability to solve problems, that is, the ability to analyze and synthesize;

- the ability to improve the object by adding details.

In the scientific literature, approaches to understanding the phenomenon of "thinking" are different. Thinking, as a complex socio-historical phenomenon, is studied by many sciences. So, for example, in the theory of knowledge, thinking is viewed through the prism of the relationship between the objective and subjective, sensory and rational, empirical and theoretical; in logic, it is investigated as a "mechanism" for obtaining the truth of inferential knowledge. In addition, thinking is the subject of scientific attention to aesthetics, cybernetics, science of science, neurophysiology, psychopathology, ethology and other scientific disciplines[2,7].

Thinking occupies a special place in psychological research, in which it is considered as a process of human cognitive activity, characterized by a generalized and indirect reflection of reality. The analysis of thinking research from the points of view of various foreign and domestic psychological concepts showed that the research of psychologists is not only an applied focus, but also contributes to a deeper understanding of the nature of the phenomenon of "thinking", enriching its general psychological theory.

A. N. Leont'ev's research shows the existence of existing relations of analogy between the structures of the external, constituting behavior, and internal, constituting thinking, activity. Internal, mental activity is a derivative from external, practical, in which individual interchangeable elements can be distinguished - actions, operations. The structure of mental, theoretical activity may include external, practical actions, and vice versa.

P. Ya. Halperin developed the concept of the stage-by-stage formation of mental actions, which is based on the fact that mental activity is the result of transferring external material actions into the plane of reflection, into the internal structure of mental activity. The transfer of an external action to the inside takes place in a strict order, in stages, from the formation and familiarization of the tentative basis of the future action in practical terms, at the first stage, to the implementation of the action in terms of internal speech with the necessary transformations and abbreviations; the transition of action from the sphere of intellectual control to the level of intellectual abilities and skills - at the latter [1,5].

Thinking, as a phenomenon that provides a generic feature of a person, in the structure of his psyche belongs to the category of mental cognitive processes. It is a socially conditioned mental process of searching and discovering something essentially new, inextricably linked with speech, a process of mediated and generalized reflection of reality in the course of its analysis and synthesis. Thinking arises on the basis of practical activity from sensory knowledge and goes far beyond its limits. Through sensations and perceptions, thinking is directly connected with the external world and is its reflection. The correctness (adequacy) of this reflection, from the point of view of AV Brushlinsky, is continuously checked in the process of practical transformation of nature and society.

In the process of development of human society, spiritual production was separated from material production, as a result of which theoretical activity, i.e. thinking, has acquired relative independence and independence from the practical activities of a person. On the one hand, the relative independence of thinking serves as a source of separation of thinking from objective reality, which in turn gives rise to illusory or speculative ideas about the world. This gives rise to the problem of the criterion of the truth of thinking, in the solution of which dialectical materialism proceeds from the recognition of social-historical practice as such a criterion. On the other hand, the relative independence of thinking determines its creative activity, contributing to the achievement of new knowledge.

Thinking is categorical in nature, since the knowledge acquired in the process of cognition is fixed in categories. The comprehension of objective reality is carried out through the forms of thinking - concepts, judgments, inferences. As cognition develops, the categorical structure of thinking is improved, it is enriched with new categories and concepts that reflect the process of achieving objective truth.

Thinking objectively exists only as a continuous interaction of the subject with the object of action and cognition. This is the only possible way of the objective existence of thinking naturally determines the corresponding way of its scientific research. Any thinking is inseparable from the objective content of the object, cognized by the subject, thus, it is always a reflection of the object, that is, being. This feature of thinking was emphasized in his time by F. Hegel [Hegel F. Works. T. V, p. thirteen]. The structure of thinking is a reflection of the objective world, its dialectics. Therefore, the dialectical method is the method corresponding to the modern level of knowledge - all its laws, all its internal organization and structure are similar to the process of development of universal connections that exist in the objective world.

Thinking is a socially conditioned, purposeful process associated with speech, indirectly reflecting the existing properties and relationships of objects and phenomena of the objective world. The functions of thinking are the expansion of the boundaries of knowledge by going beyond the limits of sensory perception. In the process of thinking, a person uses knowledge that has already developed on the basis of previous socio-historical practice, which he fixes in the systems of language and passes it on to subsequent generations. From the point of view of pedagogical science, thinking is a process of cognitive activity of an individual, characterized by a generalized and indirect reflection of reality. The general path of the cognizing consciousness of the individual is from the study of individual properties, through the establishment of universal connections, to the disclosure of the essence of things and phenomena. Empirical and theoretical types of cognition are distinguished. The empirical level of rational cognition is the stage of mental and linguistic processing of sensory data obtained with the help of the senses. Such processing can consist in the analysis, classification, generalization of the material obtained through observation. The theoretical level of the rational stage of cognition is characterized by the inclusion of activity-related abstract thinking as another source of knowledge, at this level theories are built, the observed phenomena are explained, the laws of that area of knowledge are discovered that are the subject of study of a particular science. The transmission of ways of thinking is one of the goals of learning. It can be most successfully achieved through solving cognitive problems. The application of the theory of knowledge in pedagogy helps indirectly, thanks to the generality of laws, to determine the patterns of educational and cognitive activity and the mechanisms for managing it. Philosophical knowledge is the basis for understanding the goals of upbringing and education in the development of pedagogical knowledge.

The thinking of a teacher is the unity of scientific and applied pedagogical thinking, special scientific thinking in the discipline taught and particular methodological thinking. Only the unity of the indicated aspects of the teacher's professional thinking is a condition for the development of a teacher as a subject of pedagogical work[1,5,6,9].

The subject teacher develops methodical thinking, which synthesizes in itself: a) scientific thinking of a separate science, the basics of which are taught by the teacher; b) scientific research pedagogical thinking; c) applied pedagogical thinking. When solving purely teaching problems, the subject teacher thinks in the categories and methods of his science. At the same time, the subject teacher turns to knowledge of the psychology of learning and didactics when thinking about ways to explain the phenomena, concepts, laws and theories of the science he teaches. There is a synthesis of the teacher's knowledge and scientific thinking in the discipline taught and certain psychological and pedagogical knowledge, which entails the formation of a system of knowledge and ways of thinking about the teaching methodology of a particular academic subject.

The methodological thinking of the subject teacher and the educator's thinking are two sides of a single process of intellectual activity of the teacher-educator, united by the concept of “teacher's professional thinking”.

Thinking of the teacher as a whole, but only its scientific and pedagogical aspect. In other words, we investigate the thinking of the future teacher in the process of mastering the knowledge of sciences, conditioned by certain logical and psychological laws.

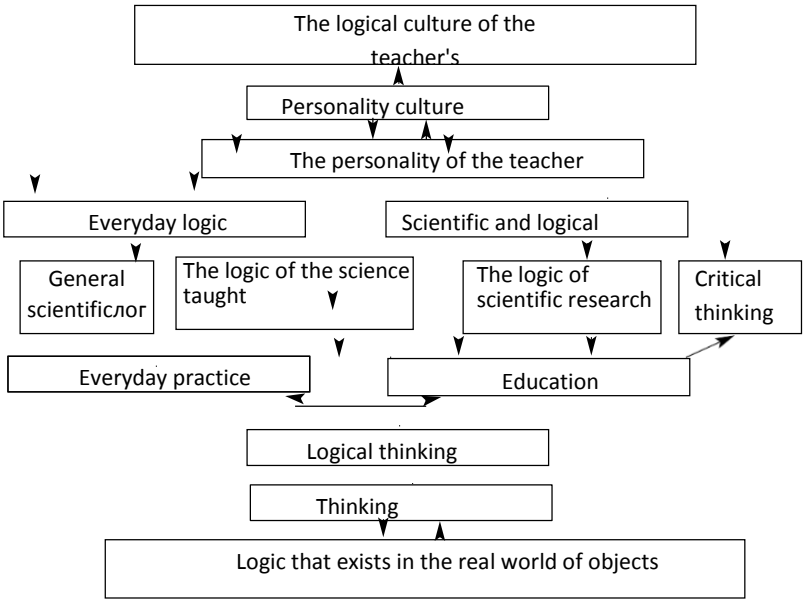
Scientific thinking in the field of any science is based on the laws, forms and methods of logic, both formal and dialectical. Consequently, the teacher's scientific and pedagogical thinking requires a logical culture. Logical culture, being an element of the general culture of the individual, manifests itself in a person's knowledge of the laws, methods and forms of formal and dialectical logic. Logical culture is expressed in the ability of a person to logically correctly, relying on the indicated laws, forms and methods, to reason, define concepts, operate with them, make inferences, evidential conclusions, use hypotheses, reveal contradictions, and also systematize and classify existing knowledge into a certain system. Consequently, the structure of the logical culture of thinking consists in the sequential disclosure of all aspects related to the formation of the culture of "common sense", formal logical culture, dialectical and logical culture.

Without the interconnection of the logical culture of the individual, the logic and methods of the taught science and the function of pedagogical thinking, the professional thinking of the teacher cannot be considered.

At present, the need to strengthen the work on the formation of logical thinking of students in the process of studying at a university is becoming increasingly clear.

Tasks for the generalization of facts by general characteristics (to highlight and combine common, essential features of objects).

Scheme 2



Tasks for the correct definition of historical concepts (many concepts of history are abstract, their assimilation requires developed abstract thinking and awareness of the connection between abstract, idealized concepts with objects).

The formation of scientific logical thinking in the natural sciences has its own characteristics associated with the logic of the science taught, and, therefore, should be taken into account in the process of teaching history at the university[4,7].

The question arises about scientifically grounded criteria that make it possible to determine the level of a teacher's logical culture, the basis of which is his logical thinking. The logical thinking of a teacher is formed both on the basis of practice and as a result of the educational process at the university. In the course of university education, students' scientific and logical thinking is further formed as a result of systematic mastery of general scientific logical forms and methods of cognition, the logic and methods of the studied science, the logic of scientific research and the logic of critical thinking.

Summarizing the above, we can conclude that the scientific logical thinking of a teacher, including a history teacher, includes formal logical and dialectical thinking, scientific thinking procedures (such as description, explanation, etc.), the logic of scientific research, the logic of the science taught and the logic of critical thinking.

A sign that characterizes the scientific nature of thinking can be considered the presence of a scientific language. Scientific thinking is often identified with theoretical thinking, with the corresponding worldview. Through theoretical thinking, the scientist is looking for a general pattern in the appearance of certain events. When proposing and substantiating a scientific hypothesis, the scientist thinks with hypotheses, performs various actions in his mind, theoretical calculations and proofs. Theoretical thinking presupposes not only the systematic perception of reality (systematic and dialectical thinking), but also the presence of a specialized language through which perception and interaction with the outside world is possible, as well as the recording of the results of nature research.

The features of the scientific language are found both in the external and internal speech of the subject teacher.

Another feature characteristic of scientific thinking is the presence of a special combination of experimental and theoretical research methods, a special logic of the research process and the solution of a scientific problem.

Scientific thinking differs from ordinary thinking by criticality. Scientific thinking is the result of a synthesis of logical and imaginative thinking with a predominance, as a rule, of creative thinking. Moreover, one of the factors contributing to the dominance of fruitful creativity is critical thinking. To achieve success in human life and intellectual activity, a critical understanding of his actions is necessary. You should be aware of what you are doing and how you are doing.

Critical thinking, on the one hand, is invariant in relation to the profile of education and consists in cognition and disclosure of existing contradictions in order to overcome them, on the other hand, it is purely specific for the profession. Critical thinking of a history teacher is based on independence, on the awareness of the need for constant self-improvement both as history and as an educator.

Conclusion

At the same time, in the field of pedagogy, as noted above, the presence of pedagogical thinking is stated. Depending on the subject that the teacher teaches, on its specific role in the education system, the issue of a deeper specialization of pedagogical thinking is resolved. A specific object, as it were, dictates the way of its comprehension, and knowledge of a special material becomes a form of thinking.

The teacher should not only think taking into account the specifics of cognition of phenomena and the so-called scientific style of thinking, but also interpret scientific historical knowledge in the context of teaching history. The teacher needs to organize the process of explaining historical knowledge in the classroom. The noted process requires supplementing scientific historical thinking with the concept of “scientific and pedagogical thinking”. Scientific and pedagogical thinking presupposes the development of a chemistry teacher, firstly, scientific chemical thinking, and secondly, pedagogical thinking. Thus, scientific and pedagogical thinking is a synthesis of scientific historical thinking and pedagogical thinking. " Methodological thinking includes not only knowledge of the features of historical thinking, but also the ability to didactically interpret knowledge, logic and methods of science in the context of teaching.

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