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Research Article

TYPES OF CRITICAL THINKING IN THE CONTINUOUS TRAINING OF STUDENTS FOR PEDAGOGICAL ACTIVITY

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ABSTRACT

The article analyses the types of critical thinking in the continuous preparation of students for professional teaching activity, it is explained that critical thinking is a concept that represents an objective way of thinking, which includes various types of human mental activity.

KEYWORDS

Thinking, critical thinking, professional activity, deductive thinking, inductive thinking, analytical thinking, exploratory thinking, systemic thinking, creative thinking, convergent thinking, synvergent thinking, conceptual thinking, metaphorical thinking.

INTRODUCTION

Globalisation of information space, openness and growth of mass communications create a diverse thinking environment in society. This is misleading for a person who does not have special social views and attitudes. The task of modern pedagogy and psychology is to educate a person who thinks and works independently and actively participates in the life of society.

In the concept of development of higher education system in the Republic of Uzbekistan until 2030 [1], "increasing attention to the quality of training in humanitarian-pedagogical directions, curricula in

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directions and specialties of teacher education and revision and improvement of programmes on the basis of best foreign practices, formation of skills in the use of modern pedagogical technologies in the educational process of students studying in this direction, improving the infrastructure of teacher education to all general education schools in the regions delivery of highly qualified professional pedagogic personnel who have mastered foreign languages" is defined as a priority task[1].

It is known that so far the mental intellectual level of a person is determined not by how much knowledge he has acquired, how much information and facts he has stored in his memory, but by his ability to allocate the necessary knowledge through critical thinking, to revise information, measured by the ability to come to an independent decision.

Main part

According to the "Pedagogical" encyclopedia [2], "critical thinking is a concept that represents an objective way of thinking, which includes various types of human mental activity.

Critical thinking is a complex process of combining ideas and possibilities with creativity, rethinking and reconstructing concepts and information. It is also a process that occurs simultaneously at several levels of active and interactive cognition. The holder of a critical opinion is less susceptible to the influence of gimmicks because he or she has his or her own system of views and is free from various dangers" [2].

In critical thinking, ideas and their importance are examined in terms of diversity and compared with other ideas. It is the highest level of thinking, which is a mental activity aimed at analysing, comparing, interpreting, applying, reasoning, innovating, problem solving or evaluating the thought process[3].

Thinking is inherent in all humans, and each person has a set of unique knowledge and skills. In other words, each person can adopt and develop different thought processes [4].

Thinking is not innate; it develops later in life. Although individuals' personality and cognitive characteristics predispose them to favour one or more specific types of thinking, people can develop and practice any type of thinking.

Although thinking is traditionally treated as a defined and bounded activity, the process is not a simple one. In other words, there is no specific way of carrying out thinking processes. In fact, several specific methods of operational thinking have been identified. For this reason, the idea that people can present different ways of thinking is supported today. On the other hand, it should be noted that each type of thinking is more effective for specific tasks. For certain types of cognitive activities, one or another type of thinking may be more useful.

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Psychology distinguishes several types of human thinking. Below we will consider them in detail.

1. Deductive reasoning. Deductive reasoning is a type of thinking that allows you to draw conclusions from a series of ideas. In other words, it is a mental process that starts with the "general" to get to the "particular". This type of thinking focuses on the causes and origins of things. It requires detailed analysis of particular aspects of a problem to form conclusions and possible solutions. This is a thought process that is widely used in everyday life. People analyse everyday objects and situations to draw conclusions. For example, if someone comes home and finds that their partner is not home, this may mean that they have gone somewhere else. At this point, the person may go to see if their keys or their partner's shirt is in place. If you realise that these items are missing, you will have more evidence to think that they are missing by deductively deducing this conclusion.

2. Critical Thinking. Critical thinking is a mental process based on analysing, understanding and evaluating ways of organising knowledge that try to represent things. It is categorised as highly practical thinking. Through it, knowledge is utilised to arrive at the most effective and valid conclusion. Thus, critical thinking analytically evaluates ideas to arrive at specific conclusions. These conclusions are based on one's morals, values and personal principles. Thus, through this type of thinking, the capacity for cognition is combined with the personality characteristics of the individual. Therefore, it determines not only the way of thinking but also existence itself. Mastering critical thinking has a direct impact on a person's functional abilities, as it makes him or her more intuitive and analytical, enabling him or her to make correct and wise decisions based on concrete events.

3. inductive reasoning. Inductive reasoning defines the counterfactual mode of thinking. Thus, this way of thinking is characterised by the search for an explanation of the general. A special section for extensive generalisations. It looks for distant situations to make them similar and thus generalises them. Therefore, the purpose of inductive reasoning is to learn evidence to measure the probability of evidence and the rules for creating strong inductive arguments.

4. analytical thinking. Analytical thinking is about analysing, breaking down and separating information. It is characterised by orderliness, that is, it provides a rational sequence of actions. Thus, analytical problem solving starts with the general and breaks it down into specific parts to fully understand it. It always aims to find the answer, so it is a very decisive type of thinking.

5. Exploratory thinking. The exploratory mindset is focused on learning about things. It does this thoroughly, with interest and determination. In this sense, this type of thinking involves both interaction and cognitive processes. Exploratory thinking requires

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a certain way of thinking. It is constantly developing questions and solutions. It is a mixture of creativity and analysis. That is, part of evaluating and testing elements. But its purpose does not end with the examination itself, but requires the formation of new questions and hypotheses based on the aspects learnt. As the name suggests, this type of thinking is fundamental to research and development and to the evolution of the species.

6. Systems thinking. Systems thinking is a type of thinking that occurs in a system made up of various subsystems or interrelated factors. It is a highly structured way of thinking that aims to understand things more fully and simply. Try to understand how things work and solve the problems that cause their features. It is a complex idea that to this day is applied in three main areas: physics, anthropology, and socio-political.

7. Creative thinking. Creative thinking involves cognitive processes that have the capacity for creativity. This fact favors the development of elements that are new or different from the rest by way of thinking. Thus, creative thinking can be defined as the acquisition of knowledge characterized by originality, flexibility and fluency. It is one of the most valuable cognitive strategies today because it allows us to formulate, structure and solve problems in new ways. Developing this type of thinking is not easy, so there are several techniques that will allow you to achieve it. The most important ones are morphological analysis, analogies, animated ideas, color inspiration, empathy, the 635 method and the Scamper technique.

8. Synthesis thinking. Synthetic thinking is characterized by the analysis of the various elements that make up things. Its main purpose is to bring together ideas about a particular topic. It includes types of thinking that are important for personal learning. Synthetic thinking allows elements to be stored in memory as they undergo a process of generalization. It represents an individual process in which each person forms a meaningful whole from the parts presented by the subject. In this way, an individual can memorize several features of a concept and still encompass them in a more general way.

9. Questioning thinking. Cognitive thinking is based on questioning and questioning important aspects. Use questioning to gradually learn the specifics of the topic at hand. Thus, questioning thinking defines the way of thinking that occurs when questions are used. This kind of thinking is never unnecessary, as it is the element that allows you to develop your own thinking and gain information. With the help of questions posed, information can be obtained in order to draw a final conclusion. This type of thinking is mainly used to deal with topics where the most important element is information that can be obtained through third parties.

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10. Dichotomous thinking. Dichotomous thinking is also called lateral thinking. It is a type of thinking that constantly discusses, questions and seeks alternatives. It is a thought process that allows you to generate creative ideas by exploring multiple solutions. It is the opposite of rational thinking. As the name suggests, its main purpose is to depart from previously accepted solutions or elements. Thus, it corrects the type of thinking closely related to creativity. It involves a type of thinking that is not peculiar to humans. People tend to associate similar elements with each other.

11. Convergent thinking. In turn, convergent thinking is the opposite of divergent thinking. Divergent thinking is thought to be controlled by neural processes in the right hemisphere of the brain, while convergent thinking is controlled by processes in the left hemisphere. It lacks the ability to fantasise, seek alternative views or ask questions, and tends to dwell on a single idea.

12. Synvergent thinking. This recent concept, coined by Michael Gelb, is a combination of divergent and convergent thinking. Essentially, it is a way of thinking that incorporates the elaborated and evaluative aspects of convergent thinking and connects them to the alternative and novel processes associated with divergent thinking. The development of this way of thinking allows for the combination of creativity with analysis, positioning itself as a way of thinking with high potential for effective solutions in a variety of fields.

13. Conceptual thinking. Conceptual thinking involves the development of problem-solving and self-assessment skills. It is closely related to creative thinking and its main goal is to find concrete solutions. However, unlike divergent thinking, this type of thinking focuses on finding pre-existing associations. Conceptual thinking involves abstraction and reflection and is necessary in a variety of scientific, everyday and professional domains. It is also characterised by the development of four basic intellectual operations:

Supraordination: refers to the relationship of specific concepts to the broader concepts within them.

Infraordination: the interrelationship of specific concepts within broader and more generalised concepts.

Isoordination: deals with specific relationships between two concepts and aims at identifying specific characteristics of concepts through their relationships with others.

Exclusion: consists of identifying elements that are different or dissimilar to other elements[5].

14. Metaphorical thinking. Metaphorical thinking is based on making new connections. It is a very creative type of thinking, but it focuses on new connections

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between existing elements rather than creating or acquiring new elements. With this type of thinking you can create stories, develop imagination and make new connections between well-differentiated aspects that have some commonalities through these elements.

15. Traditional thinking. Traditional thinking is characterised by the use of logical processes. It focuses on the solution and seeks to find similar real-life situations to find elements that may be useful for the solution. It is usually developed according to strict and pre-determined schemes. It is one of the foundations of vertical thinking, where logic plays a unidirectional role and develops a linear and sequential path. It is one of the most common types of thinking in everyday life. It is not suitable for creative or original elements, but it is very useful for solving everyday and relatively simple situations.

CONCLUSION

Thus, in the process of continuous preparation of students for professional activity, it is important to learn to know and develop different types of critical thinking. This allows to fully utilise human cognitive abilities and develop different abilities to solve different problems.

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