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CRITICAL AND LOGICAL THINKING FORMATION AS THE EDUCATIONAL COMPETENCE IN THE MODERN TRAINING SYSTEM FOR LAWYERS

Abstract. At the current stage of development, the education faces a social demand for the shaping of a highly qualified competitive specialist wanted in the global world and the global labor market. Nowoday, in the world community, competencies related to the perception and information processing such as logical and critical thinking (cognitive competencies) are the most popular ones. Such competencies shaping is one of the educational tasks, in particular legal education. The research deals with theoretical, methodical, scientific and practical principles of logical and critical thinking shaping as main educational competencies required for a modern specialist. As a result of the research the theoretical bases and means cognitive competences shaping have been covered, the ways of logical and critical thinking shaping of future lawyers have been suggested. The author has recommended the introduction of special training courses for future lawyers into the educational process considering the specifics of the competencies given above.

Keywords: *critical thinking, logical thinking, educational competencies, methodology of critical thinking development, legal education*

Introduction. The relevance of the problem connected with logical thinking shaping, improvement and development of the cognitive activity among future professionals is due to a present-day social demand. At this stage of society's development, the task of education is to create a competitive specialist, who is also of interest to employers and graduates as the consumers of educational services. This orients the Ukrainian educational space on the graduates' competencies shaping which is in demand in the global world and in the modern labor market, changing the educational paradigm of training. Such competencies of a modern specialist include cognitive ones, in particular logical and critical thinking. According to the reports of The World Economic Forum "The Future of Jobs", critical thinking remains the one among the key competencies of the future (4th place – among skills in 2015, 2nd place – among skills in 2020, 4th place – in the list of anticipated skills in 2025), which determines the attention to the development of thinking skills.

Analysis of recent research and publications. The problem of logical competence shaping is especially relevant in the training for legal professionals – in accordance with the requirements and needs of the time considering global educational trends, as logical thinking skills are of the same importance as

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basic professional competencies. The report on results of the analytical research "Knowledge and skills of law faculties and higher education institutions graduates through the prism of matching labor market needs", initiated by the Ministry of Justice, stated: "According to employers, law graduates should have skills to draft procedural documents (25.3 %), the ability to express their opinion logically and have communication skills (25.3 %). Almost an equal number of respondents noted the need for analytical, critical and logical thinking (9.6 %), abilities to work with the legal framework, data registers and legal programs, skills of rapid search and information processing (8.4 %), interaction with clients (7.3 %)" (Shemelynets, Yakubovych, & Osinska, 2018, p. 19). Thus, the development of logical thinking is not only a necessary condition for cognitive activity, but also a current qualified specialist shaping.

The importance of logical thinking in modern training is growing. Such competence can be found in the educational industry standards for the training of specialists in various fields, as a logical culture is a direct basis for intellectual activities, including the professional one. Thus, in the list of graduate's competencies defined by the standard of higher education (approved and put into effect by the order of the Ministry of Education and Science of Ukraine dated 12.12.2018 no. 1379) logical competence is mentioned as the general one – GC1: "Ability to abstract thinking, analysis and synthesis", and among special (professional) competencies – SC13: "Ability to critical and systematic analysis of legal phenomena and application of acquired knowledge within professional activities", SC16: "Ability to logical, critical and systematic analysis of documents, understanding their legal nature and value" (Standart, 2018).

Thus, cognitive competencies shaping in the system of training legal professionals is of great importance according to the requirements and needs of the time and taking into account global educational trends. Thus, measure of cognitive competencies development is a prerequisite and component of law education, for example, in the United States of America. The relevance of the study is also due to its applied nature, practical significance for modern professionals training.

The purpose of the article is to study the features of critical and logical thinking shaping as the educational competencies in the system for training for legal professionals. The article also presents the practical experience of logical thinking shaping required for law students by means of teaching the discipline "Logic", formulates the principles of critical thinking shaping by means of Humanities.

The research is devoted to theoretical, methodical, scientific and practical principles of logical and critical thinking shaping as the main educational competencies of a modern specialist. The purpose is to determine the main directions of cognitive competencies development. There have been suggested the ways of logical and critical thinking shaping required for future legal professionals. The aim of the research can be implemented through following objectives:

– consider theoretical approaches to the critical thinking study in the modern research;

– study the means of logical thinking shaping;

– suggest methods of logical (analytical) thinking shaping in the system for training legal professionals at the Bachelor's level;

– justify the need for special training courses for future legal professionals and give appropriate recommendations.

Formulation of the main material. The topic of research remains relevant due to a wide range of different aspects of critical and logical thinking study, as well as peculiarities of thought processes shaping and ordering, which leads to an ever-increasing amount of scientific research. Critical and logical (analytical) thinking shaping is at the intersection of various areas of research along with areas of knowledge from Philosophy (through Pedagogy) to Neurophysiology and Neurocognitive Studies. Each of aspects of this has a large bibliography, which

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requires the coverage of the main current trends in the study of critical and logical thinking shaping as cognitive competencies.

The problem of critical thinking formootion and development is one of the generally accepted areas in modern Pedagogy, Psychology and Philosophy. Various aspects of critical thinking shaping are reflected in the works of domestic and foreign scientists. Critical thinking in the modern sense is an invention of American Cognitive Psychology. The idea of critical thinking development has its origin in the United States of America, namely in the work of famous American psychologists of the twentieth century W. James and J. Dewey, where it began to be spread from within America, Europe, etc. (A. Lipman, R. Paul, P. Pintrich, R. Sternberg, D. Halpern, O. Tiaglo, & S. Terno and others).

Thus, in the United States of America, projects to introduce critical thinking into the education system have been widely used since the 1980th.

Significant amount of literature is devoted to the problems of critical thinking development. The studies dedicated to the peculiarities of logical thinking shaping are to be highlighted within the frames of the subject under consideration. Works, in particular, textbooks and tutorials devoted to teaching the discipline of Logics are aimed to logical thinking shaping through the development of logical techniques and analysis. In this group it is possible to identify a separate component that contains educational literature on teaching the discipline of Logic at Law Schools, Legal Logic, and logical thinking shaping required for legal professionals. The third group includes methodological literature on individual methods and techniques for of logical and / or analytical thinking development.

Thus, despite the large number of studies on both theoretical aspects of logical and critical thinking, and various ways of such competencies shaping, the problem of logical and critical thinking shaping as components of cognitive competence required for law students has not been studied.

The research topic remains relevant due to a wide range of different aspects of critical and logical thinking study, as well as peculiarities of thought processes shaping and ordering, which is a consequence and direct result of such competencies shaping.

Critical and logical (analytical) thinking shaping is at the intersection of various areas of research along with areas of knowledge: from Philosophy (through Pedagogy) to Neurophysiology and Neurocognitive Studies. Each of aspects of this very issue has a large bibliography, which requires the coverage of the main current trends in the study of critical and logical thinking shaping as cognitive competencies.

Considering complexity of the psychological and pedagogical processes considered in this article, which is the subject under consideration of the research in various fields of knowledge, it is necessary to clarify some concepts and categories. One of such concept is “competency”.

In modern didactics, the problem of distinguishing between the concepts of “competence” and “competency” is acute. There are differences in regulations and scientific research on the use and definition of these concepts. Experts emphasize that the terms “competence” and “competency” are not only very close in meaning (some consider them as synonymous, and others – keep off the use of one of them to avoid misunderstanding), but also cognate words, not clearly stated in the national literature, therefore, they need further more careful studying; problems related to both definitions are relevant and need further consideration, remaining unresolved for a long time (for more details, see (A. Tyaglo, & T. Voropay, 1999, 285 p.)). In general, it is considered appropriate to use “competency” as a general concept, “competence” as a broad concept, and “competences” as a narrower (knowledge, skills, abilities). Competences, in turn, are separate elements of the broad concept of competence. Due to the study of logical and critical thinking as educational characteristics formed as a result of learning activities, it is advisable to use the concept of “competence” in

this article, as its content is enshrined in the education legislation.

In the study, reflecting the experience of logical and critical thinking formation by means of socio-humanitarian disciplines, in particular "Logic", the concept of "cognitive competence" is used in the meaning of the characteristic defined for admission to Master's degree in "Law". Cognitive competence is a personal characteristic acquired by a person as a result of his life and learning activities (formal and informal). It determines his ability to gain and improve an individual system of knowledge, skills, abilities and values, use it to solve personally and socially significant problems due to the generally accepted system of values belonging to a sustainable growth society. Accordingly, the starting point is the provision that cognitive competencies cannot be measured directly. To measure them, special tools are needed, the use of which can provide indirect information, where its interpretation will serve as a basis for certain conclusions about the level of cognitive competencies formation, where the key competence is the ability to think critically, analytically and logically.

At present, the concepts of such competencies as "logical thinking" and "critical thinking" are widely discussed within their content in the pedagogical (methodological) literature. On the one hand, in everyday language, "critical" is associated with a negative attitude towards something. Thus, for many, critical thinking involves controversy, discussion and conflict. On the other hand, the concept of "critical thinking" includes "analytical thinking", "logical thinking", "creative thinking" and so on. Although the term "critical thinking" has been known for a long time from the works of psychologists J. Piaget, J. Bruner, L. Vygotsky. Teachers-practitioners have been using this concept more recently in the professional language. In Ukraine, the problem of critical thinking development has been raised first by the Kharkiv researcher O. Tiaglo (Tiaglo & Voropay, 1999).

The theory of multiple intelligences is widely used at the current stage of pedagogical knowledge development in practice. It allows researchers to diversify the development of personality. Howard Gardner (1983) suggested his theory of multiple intelligences as an alternative to the classic view of intelligence as a property of logical thinking. Currently, there are several theories that emphasize the existence of several types of intelligence – a wide range of cognitive abilities, which in some way correlate with each other.

The theory of multiple intelligences differentiates human intelligence into specific modalities, rather than see the intelligence as dominated by one general ability. Howard Gardner suggested this model in his book "Frames of Mind: Theory of Multiple Intelligence" (1983). Is there really (more than?) one kind of intelligence – which is traditionally considered as "rational" and characterized by the ability to think logically?

The theory invites remarks and criticism, but the idea itself is being developed and supplemented. In his work, H. Gardner first identified 5 areas and later this list was broadened. There are the following types:

– linguistic;
– logical-mathematical;
– spatial;
– musical;
– bodily-kinesthetic;
– intra personal.

Although all individuals are able to show all kinds of intelligence to some extent, each individual is characterized by a unique combination of more and less developed intellectual abilities, which explains the individual differences between people. It is suggested to take into account the theory of multiple intelligences when using testing for cognitive competence, learning ability or level of intellectual development.

At the current stage of science, social communications and society as a

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whole development, mathematical or verbal-conceptual (verbal) intelligences are predominant, while development of other types of intelligence is not considered and an insufficient attention is paid to determining the level of such development due to a number of objective reasons. That is why when performing tasks at the level of intellectual development, the level of development of rational thinking is checked (logical-verbal, mathematical or rational thinking in the traditional meaning) or spatial thinking, the definition of which is taken as an indicator of cognitive competence are checked. At the same time, the ability to perform formal logical operations is a condition for the activity of specialists in certain specialties, in particular, lawyers. Such skills and abilities formation is aimed at educational activities for the training of modern specialists, the quality of which is assessed by means of GLET (General Legal Education Test).

Critical thinking is recognized as the main competence of the future, which is associated with the trend of world development − the transition to the information society. In this regard, the Council of Europe has included competencies related to the information society's life among the most important (key) human competencies. They also have included ones to the list of new technologies for information retrieval and processing, understanding the feasibility of their usage, ability of critical attitude to the messages broadcast through the media, the ability to be protected from the negative influences of the media. Critical thinking is formation of particular importance is shaping in conditions of changing cognitive functions, loss of ability to perceive arrays of complex and structured information, or even large texts. "Clip thinking" leads to unconscious consumption of information, inability to process and use it.

Conventionally, information can be represented as a natural information space that reflects the physical objects of the material world and an artificial information space created by the human. Artificial space also includes information, the production and consumption of which is realized through the media. The modern human receives most of the information both from the surrounding material world and, in the indirect process of information exchange during communication: through symbolic (mostly language) and technical (devices that transmit, present information) means. The individual has a psychological (information-psychological) media influence in the media production. The media consumer is affected by such media influence and this causes opposite psychological reaction: intellectual, emotional, behavioral. In other words, the media influence intermediated by special technologies determines the result in the form of expected psychological reactions, an effective final psychological result from the audience.

The concept of "media literacy" is closely connected with such educational competence as critical thinking. The concepts of "critical thinking" and "media literacy" are widely discussed in the pedagogical (methodological) literature and their content is being specified and approved. Analyzing critical thinking when combined with media literacy, we can determine that critical thinking is a psychological mechanism of media literacy, the ability to perceive and analyze messages and then evaluate them in an appropriate environment, a deep and detailed understanding of historical, economic and artistic contexts, represented in the message, the ability to see the peculiarities in the information presented, the ability to draw conclusions on advantages and disadvantaged of the message.

Considering all these, critical thinking formation is one of the most important tasks of modern education, as the ability to process information is an integral part of the individual in the information society. However, defining this, due to differences in the definition of this concept, there are different approaches and methods of critical thinking formation. How exactly is it suggested to form this competence in nowadays conditions? Since the conscious perception of information is based on its rational perception, which is one of the means of protection against fakes and distortions of messages, critical thinking formation is based on a logical culture

formation, the ability to "make sense", reason rationally and draw conclusions.

The authors of various courses of critical thinking shaping (Terno, 2020) first pay attention to understanding the context of information offered for consumption on the one hand and strict adherence to the logical sequence of reasoning where the last ensures the avoidance of common logical fallacies and manipulation techniques known since ancient rhetoric on the other. Typical logical fallacies that are widely used in almost every controversy (from Greek "Polemikos" – warlike, hostile – one of the most common types of public debate, which is characterized by confrontation and opposition; form of opposition of fundamentally different opinions, ideas, views; the purpose of the controversy is victory over the enemy), are as follows:

1) Ad hominem arguments – rhetorical strategy where the speaker attacks the character, motive or some other attribute of the person making an argument rather than attacking the substance of the argument itself. This method is also called "mudslinging".

2) Argument ad nauseam (Argument to the point of disgust) – making the argument that something is true by repeating the same thing in different words. This approach works when the number of media sources is limited or controlled by the propagandist.

3) Appeal to authority – a way of using public statements of famous or respected people to support the position, argument or course of action. It is also called "confirmation bias".

4) Appeal to fear. A person who uses this argument tries to gain support for his ideas / views by playing fears of the audience and warning, for example, Josef Goebbels used "Germany must Perish!" by Theodor Kaufman to claim that the Allies were seeking to destroy the German people.

5) Appeal to emotions – the use of meaningful or emotional terms to give weight or moral virtue, just to believe what has been said. It is usually used for fanatical or deceptive methods.

Means based on logical fallacies are used to influence consciousness, as the goal is to influence the recipient and his beliefs. Detecting the use of such techniques along with preventing the dissemination of false and manipulative information is the main goal of such educational competencies shaping as media literacy and critical thinking. "Equivocation" as a kind of "straw man fallacy" is constantly found in discussions dedicated to the problems of different formats and degrees of significance, so modern professionals (especially legal professionals!) need to be up for it – and therefore protected from such manipulations.

With the development of critical thinking, new solutions are built on the basis of information known that is imposed on life experience. Therefore, a person with critical thinking has the following important character traits: to think independently, search and analyze information, find his own solution to the problem and making compelling arguments, to express his opinion in debates, discussions, controversies (discuss in society). To develop these qualities as components of critical thinking, it is necessary to consider development of the following skills: to organize thoughts and make plans; assimilate other people's ideas – fluency of thinking; continue to work on the problem, even if there are difficulties – persistence; ability to draw positive conclusions from one's own mistakes – readiness to make mistakes; ability to monitor his own mental activity consciously; ability to find compromise solutions – willingness to compromise. Development of these skills and qualities at the personal level is a part of critical thinking shaping.

For the development of critical thinking as a component of cognitive competence "Six Hats Method" can be used in the classroom. "Six Hats Method" is a system designed by Edward de Bono (1985) that describes a tool for group discussion and individual thinking using six colored hats. The background of this very method is the fact that the human brain is able to think in several different

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ways, each of which can be intentionally involved, and therefore planned for the structured use, thus allowing the development of tactics to reflect on individual problems. De Bono identifies six separate areas where the human brain can be involved. The brain recognizes and brings to mind certain aspects of the problem of consideration (e.g., neutral facts, pessimistic judgment, etc.) in each of these areas. None of these areas is a completely natural way of thinking, but rather the way people reflect the results of their thinking. Colored hats are used as metaphors for each of the areas of thinking suggested by the researcher.

Six different directions are defined and assigned a separate color. Therefore, these areas are:

– Management – Blue: what is the subject of discussion? What are we thinking about? What is our goal? The overall picture can be seen.

– Information – White: what facts do we have taking into account only the information available to us?

– Emotions – Red: intuitive or instinctive inner reaction or emotional feelings statement (but no justification).

– Cautions – Black: logical reasoning is given to be careful and conservative. Practical, realistic.

– Benefits – Yellow: logical reasoning is given to find advantages, search for harmony. Positives and plus points are seen.

– Creativity – Green: provocative and experimental judgments, gives free rein to thought. Think creatively, not by pattern.

The symbolic jumping between the directions is the action of wearing a colored hat, literal or metaphorical. Such a metaphor and its layout in didactics contribute to a more complete and thorough separation of thinking. These six hats of thinking point out problems and solutions to the idea suggested by the speaker. Using this technique allows students to consider problems in many ways, turn it into a task, taking into account possible solutions. Schools in more than twenty countries have included Edward de Bono's thinking tools in their curricula.

Considering various aspects of critical thinking, we can determine that critical thinking is, in a broad sense, the ability to perceive and analyze messages, or the psychological mechanism of media literacy which is another important component of thinking in today's information society. Perception and further evaluation of information in the appropriate environment, deep and detailed understanding of the historical, economic and artistic contexts of the systems presented in the message, the ability to see the nuances in presenting information, the ability to draw conclusions about strengths and weaknesses are important skills of educational process required for a specialist.

At the same time, the disciplines of social and humanitarian profile have a special role in these competencies shaping, as the process of studying shapes the worldview of the individual, including the development of information perception and informed decision making. As a result, in the study of social and humanitarian disciplines, it is appropriate to aim the development of these competencies and implement appropriating methods and technologies for their shaping. Within the framework of teaching "Logic" and "Legal Logic", special courses on effective communication, theory and practice of argumentation, which consider various methods of influencing the interlocutor, correct and incorrect means of argumentation, ability to analyze the interlocutor's reasoning and identify manipulations. It is advisable to include the topic dedicated to critical thinking shaping.

Competence of "critical thinking" is important both within obtaining a Bachelor's degree and in entering Master's degree education, and later in professional activities, because a specialist with analysis skills is able to act effectively and is a competitive specialist in today's labor market. Therefore, it is appropriate to introduce the course "Critical Thinking" in the educational process of higher education in order to train modern specialists. The creation of such a course is conditioned by

the requirements and challenges facing the modern education system and the public demand for existing competencies in the modern global world.

Having considered critical thinking providing conscious perception and correct understanding of textual material and which is extremely important for legal activities, we turn to such competence as logical thinking, focusing on the peculiarities of its shaping and importance in modern training.

In modern pedagogy and cognitive psychology there are differences in understanding the concept of "logical thinking". Under logical thinking as an educational competence it is understood the ability to perform operations and techniques aimed at cognition, in accordance with a certain sequence and using abstract forms. Both symbols and words that serve to embody and convey concepts are meant by such forms. The competence of "logical thinking" as "the ability to think abstractly, analyze, synthesize and establish relevance between phenomena and processes" is used in educational and professional programs of various fields of knowledge, formed on the basis of approved standards of higher education. Despite the differences in understanding of logical competence, the problem of logical thinking shaping is relevant regardless of the field of knowledge of future professionals. Thus, logic as a property of abstract thinking and its study in the form of a discipline forms a logical culture, which is an indicator of the modern specialists' development in the social sciences, humanities, philosophy or law. At the same time, the use of abstract categories embodied in signs (mathematical symbols) and logical operators is an integral part of modern engineering training, namely in IT.

Logical competence is one of the main competencies of a lawyer. It has been current since antiquity, but does not lose its relevance, meeting the request of modern employers. Logic is the main discipline for logical thinking shaping required for legal professionals; its importance cannot be exaggerated: understanding and applying the rules of law is impossible without study and conscious use of logical knowledge.

The competence of logical thinking is an integral part of modern specialists' development. This competence is important for modern psychologists, educators, physicians and engineers. But it is a necessary condition for the development of a lawyer as a modern educated specialist. Proving the need for logic mastery and use within jurisprudence is even superfluous, so they are inextricably linked since antiquity, the time of the modern (Roman) legal system and judicial rhetoric. Both philosophers and lawyers emphasized the need for logical knowledge for legal professionals. Thus, in the sixteenth century Abraham Frunce's work "Lawyers Logike" was published. The main idea of this work is to demonstrate the close connection between logical and legal knowledge. The book offers a special approach to logic of legal reasoning (1958).

In England, an important source for the further development of the theory of argumentation in the Renaissance was the work of Abraham Fraunce "Logic for a lawyer with examples of the logic precepts in the practice of common law" (1588). Fraunce dedicated it to his patron the Earl of Pembroke, and "all lawyers-scientists of England".

The founder of classical logic G. Leibniz presented the connection between logic and law, the use of logical and mathematical knowledge in jurisprudence. This eminent philosopher, mathematician and lawyer stated that logical proof guarantees the objectivity and truth of knowledge, formulating the law of sufficient reasons as extremely important for legal theory and practice. The desire for the accuracy of legal thinking stimulated him to the further deep logical and mathematical analysis of phenomena, the thinker saw logic as a universal tool of science for knowledge of the objectively existing world.

The importance of mastering and applying logical knowledge in legal activities has been constantly emphasized by legal practitioners, well-known lawyers; the problems of the interconnection between logic and law remain relevant for modern

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specialists in legal logic (Malyukova et al., 2018).

Taking into account the inextricable link between logic and jurisprudence and the need to acquire logical knowledge to be applied to the logic of norms, logical competence is one of the components of lawyer's professional qualifications. Knowledge of logical techniques and operations is an essential feature of a qualified lawyer, regardless of the immediate field of activity.

The means of developing logical thinking are the performance of appropriate exercises and tasks that cover the whole set of logical operations. The main component to get success in logical thinking skills shaping is the awareness of the aim and final result of the exercise done by both students and teachers.

It can be agreed that a person acquires the foundations of logical thinking during socialization, which occurs in accordance with the age characteristics of consciousness formation, and subsequently, continues to be formed within the mastery of specialized disciplines.

Thus, while doing social activities the child learns to perform basic logical operations, following the example, often with mistakes. Correcting them, completing logical thinking shaping as an important component of consciousness is the aim of the secondary education. An important component of logical thinking forming is solving mathematical exercises and problems aimed at building a certain sequence of mental processes to obtain the final result in the mind. Also, the skills of logical thinking are formed within the study of disciplines, STEM and socio-humanitarian, under the terms of the introduction of tasks and case situations promoting development of such skills within the educational process. However, even with the completion of logical thinking forming, which takes place mainly at the age of 16-18, which coincides with the period of study in high school and is characterized by the ability to track causal links and build argumentation process. Mistakes related to violations of rules as for concepts (for example, definitions) are observed here. They are common for first-year students and can be quickly corrected by consciously working out these rules and such mistakes.

Such work is almost impossible to be carried out without the involvement of special disciplines aimed at studying and streamlining thinking, analysis and elimination of common mistakes made in professional activities. That is why future legal professionals, teachers, doctors, engineers study logic as a necessary discipline that helps to avoid specific mistakes. Thus, it is an understanding of causation, probability and validity of conclusions, contradictions of opinion for health professionals; understanding deductive and inductive learning tools, understanding the rules of concepts operating accompanied with making and avoiding mistakes by students necessary for teachers. Of particular importance is the study of logic and acquiring culture of mental operations for future engineers, because the methods of scientific induction are widely used in the daily activities of technical professionals.

In the general scientific sense, logic is a means of conducting and substantiating experimental data, testing hypotheses and developing theories.

The study of logic is especially important for professionals in the field of law. For many centuries, logic and law have been inextricably linked and intertwined, not only in the sense of teaching theories and practice of judicial argumentation in adversarial litigation, which has been around since ancient times. Logic occupies an important place in criminology, studying various types of examinations, the student realizes which examination provides reliable knowledge and why. It is impossible to exaggerate the importance of logic as a discipline for action planning in the study and practical elaboration of the rules of criminal procedure law. The concept and structure of legal evidence is inextricably linked with understanding the process of logical proof, logical laws (including the law of identity and the law of sufficient reasons) and the concept of logical proof (argument) in the structure of argumentation, comparing legal and logical evidence as a basis to build a criminal process.

Is it possible to a logical culture shaping by means of exclusively professional

disciplines, without resorting to the study of logic? Probably the answer is positive, because many disciplines of both general training and vocational training among the competencies that should produce academic disciplines are called logical thinking. But what exactly are the operations and techniques performed by this or that discipline? What are the mistakes that will be avoided by students of higher educational establishments who study these disciplines? Obviously, only such a discipline as "Logic" has the means to shape logical thinking to the extent that ensure the establishment and use of logical tools for professional legal activities.

Basic skills, techniques and analysis shaped at law schools during the study of the discipline of "Logic" and its interdisciplinary links with other subjects provided during training for a modern lawyer are at great importance. The main skills developed by future legal professionals and used in the daily work of legal professionals are operations on concepts – such as definition and classification. At the same time, the classes have algorithms for solving tasks, included into special disciplines, which is an important component required for a modern lawyer during the training.

Understanding the universality and uniformity of mental analysis is the key to its effectiveness, and therefore the effectiveness of professional activity.

To form this competence in the course of educational activities, when studying the discipline of "Logic" students are offered an algorithm for solving problems, which is fixed within the study of socio-humanitarian disciplines (philosophical, historical and legal), and later professional disciplines.

Although there is no single algorithm for solving problems, we can identify the necessary stages (steps) in considering the task as a problem situation, to achieve the goal that must be fulfilled through parameterization of boundary conditions, circumstances, and the solution can be represented by the following algorithm.

The algorithm for solving any conditional (mathematical) task includes the following steps:

1. Analysis of the condition.
2. Selection of solution rules.
3. Selection and application of the relevant rule.
4. Providing a reasonable answer.

When considering practical tasks, law students are asked to perform the following steps:

The problem distinguishes:

– conditions and elements of the situation, circumstances;
– limit of conditions;
– rules for transforming the situation;
– model, solution version (goal).

For example, when the algorithm is used during the Logic class (later Criminal Law class); students are invited to solve tasks in criminal law. This activates cognitive activity, arise the interest and practical orientation of the discipline, and promotes interdisciplinary links and further professional thinking culture formation.

As a result of the analysis given it is necessary to write down the qualification formula where it is necessary to mention a paragraph or a part of the corresponding article (in some cases – a set of articles) of the law on criminal liability if it meets the needs of the task. If it is concluded that there is a lack of corpus delicti in the act committed, it is necessary to provide arguments and considerations as to which element of the corpus delicti is missing. An unacceptable option for solving any task is a short answer without justification (for example: "an act is not a crime", "it is worth applying one or another article of the Criminal Code of Ukraine", etc.). Such decisions, even if they are correct, will be considered unsatisfactory.

Such exercises form the logical competence of the specialist; create conditions for successful professional activity in the future. Teachers of professional disciplines note, "One of the difficulties that students face in the process of preparation for a practical lesson is the wording of the task solution. On the one hand, it is

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unacceptable to limit it only to a simple answer or only to an indication of the criminal law article to be applied. Of course, drawing up a formula is a necessary condition for qualifying a crime, but it is especially important to justify why in this case the specified criminal law is applicable". Thus, the skills of analysis, finding the solution and giving justification in solving tasks in various fields of law during the classes of Logic is a case for the next stages of the educational process.

The experience of taking a professional test in the format of External Independent Assessment (EIA) for the master's degree programme in "Law" and preparing applicants for such testing, shows that implementation of such tests has to do with potential ambiguity and rejection. This is due to a number of reasons. First of all, it is worth mentioning the prejudice against one's own abilities, negative attitude to mathematics, mathematical calculations, task solving.

In the testing of cognitive competencies in the external evaluation, the tasks on testing analytical – numerical – thinking are connected with describing certain situations and their conditions. Tasks on the use of deductive analysis are suggested for each of situations.

Doing such exercises allows students to determine the existing level of analytical (numerical) thinking.

Along with logical thinking, great importance in the modern educational paradigm is given to analytical thinking. This article considers correlation between logical and analytical thinking.

Analytical thinking has much more meaning than just the ability to solve arithmetic or algebraic tasks. It is an analytical view of life and phenomena of the surrounding world, when searching for their logical structure, essence and quantification. The perception of oneself as a mathematical thinker is quite organic. Such features of thinking do not contradict the specific professional analysis of information, but structure and organize it. Stanford University offers the two-part course in mathematical thinking. The core course takes eight weeks and focuses on developing mathematical thinking skills for everyday life and professional (non-mathematical) activities. Tasks that are solved during training are aimed at mastering the rules of logic in the analysis of language and wording. In fact, it is a course of analytical thinking. Researchers sometimes even use the seemingly paradoxical phrase "humanities mathematics" to introduce to the sections of applied mathematics that study society and social relations.

Solving various tasks provides an opportunity to learn to analyze the situation, to find connections between phenomena, to distinguish primary and secondary, to set a strategy, to apply knowledge and skills. The competencies wich are formed this way are important both for educational activities and professional tasks performing. Acquiring the methods of logical thinking development and, in particular, methods of solving logical tasks, is an integral part of the intellectual culture formation required for a modern highly qualified specialist.

Thus, the relevance of logical thinking formation and development required for students, the question of techniques, methods and tools aimed at achieving this goal arises. Currently, there are at least two opportunities in the education system to ensure the development of students' logical thinking: development through the introduction of Logic components into the teaching process – special techniques, operations, etc. – within the professional disciplines of the relevant field of study. Another way is to teach a special discipline of "Logic", the aim of which is logical thinking formation as one of the components of general cognitive competence. The discipline of Logic can be considered as the main means of the logical competence formation required for a current lawyer. At the same time, it is impossible to neglect the opportunities for logical thinking shaping provided by the disciplines of professional training. Given the need to train a modern specialist and the demand for such competence (critical thinking) shaping, it is advisable to consider the possibility of introducing special training courses named "Legal

Logic" and "Critical Thinking".

Conclusions. Thus, at the current stage of society's development and taking into account the process of education reformation process, which becomes focused on the complex of both harmonious personality and professional, cognitive competencies formation are in high demand, in particular, the competence of critical and logical thinking. Development and implementation of such techniques as skills of analysis and perception of information, the ability to reflect on the information received consciously and independently, ask questions, look for arguments, find independent and relevant solutions into the educational process – is an urgent need and, accordingly, becomes the main task of disciplines both social and humanitarian nature, and professional disciplines in the specialty during the educational process. At the same time, for the logical thinking formation as a competence that allows specialists to form, use and improve thinking operations consciously, it is advisable to use a special discipline "Logic", which tasks are directly connected with a logical culture formation required for the future specialist.

Having analyzed the peculiarities of logical and critical thinking formation within the training of legal professionals, the research has identified scientific and theoretical principles and practical ways of implementing the experience of these competencies shaping by means of general disciplines, justified the need for special courses "Legal Logic" and "Critical Thinking" in the modern system of training legal professionals.

Within the research given the author has determined the main directions of cognitive competencies developing and has suggested the ways of logical and critical thinking formation required for future legal professionals. Considering the specifics of these competencies formation it has been recommended to introduce the additional courses as means of critical thinking formation, the main educational competence in the global world of the XXI century.

Conflict of Interest and other Ethics Statements
The authors declare no conflict of interest.

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ФОРМУВАННЯ КРИТИЧНОГО ТА ЛОГІЧНОГО МИСЛЕННЯ ЯК ОСВІТНЬОЇ КОМПЕТЕНТНОСТІ У СУЧАСНІЙ СИСТЕМІ ПІДГОТОВКИ ЮРИСТІВ

Анотація. На сучасному етапі розвитку перед освітою постає суспільний запит на формування висококваліфікованого конкурентоспроможного фахівця, затребуваного в умовах глобального світу та глобального ринку праці. На цей час у світовій спільноті серед затребуваних компетентностей є компетентності, пов'язані із сприйняттям та обробкою інформації – пізнавальні компетентності: логічне та критичне мислення. Формування таких компетентностей є одним із завдань освіти, зокрема юридичної. Дослідження присвячено теоретичним, методичним та науково-практичним засадам формування логічного та критичного мислення як основних освітніх компетентностей сучасного фахівця.

Таким чином, на сучасному етапі розвитку суспільства та з огляду на процес реформування освіти, що стає орієнтованою на комплексне формування як гармонійної особистості, так й фахівця-професіонала, пізнавальні компетентності є гостро затребуваними,

зокрема, компетентності критичного та логічного мислення. Розробка та впровадження у навчальний процес прийомів, що формують навички аналізу та сприйняття інформації, здатність свідомо та самостійно міркувати над отриманою інформацією, ставити запитання, шукати аргументи, знаходити незалежні та релевантні рішення поставлених завдань – є нагальною потребою та, відповідно, стає основним завданням дисциплін як соціально-гуманітарного профілю, так і фахових дисциплін за спеціальністю. Водночас для цілісного формування логічного мислення як компетентності, що дозволяє формувати, свідомо використовувати та вдосконалювати мисленєві операції, доцільно застосовувати спеціальну навчальну дисципліну "Логіка", завдання якої безпосередньо полягають у формування логічної культури майбутнього фахівця.

Проаналізувавши особливості формування логічного та критичного мислення при підготовці юристів, у результаті дослідження визначено науково-теоретичні засади та практичні шляхи реалізації досвіду формування означених компетентностей у студентів-юристів засобами навчальних дисциплін загальної підготовки, обґрунтовано необхідність впровадження спеціальних навчальних курсів ("Юридична логіка", "Критичне мислення") у сучасну систему підготовки юристів.

У результаті проведеного дослідження висвітлено теоретичні засади та засоби формування пізнавальних компетентностей, запропоновано шляхи формування логічного та критичного мислення у майбутніх юристів. Розглянувши специфіку формування зазначених компетентностей, у висновках рекомендовано впровадження спеціальних навчальних курсів для сучасної підготовки майбутніх юристів.

Ключові слова: *критичне мислення, логічне мислення, освітні компетентності, методика розвитку критичного мислення, юридична освіта*

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