Hazdiuk K., Post-graduate Student (Yurii Fedkovych Chernivtsi National University, Chernivtsi), Nikitina O., Candidate of Engineering (Ph.D.) (National Technical University "Kharkiv Polytechnic Institute", Chernivtsi), Pylypiuk T., Candidate of Engineering (Ph.D.) (Kamianets-Podilsky Ivan Ohienko National University, Kamianets-Podilsky)

THE USE OF INFORMATION TECHNOLOGY TOOLS TO IMPROVE DISTANCE EDUCATION

The article considers the relevance of the work determined by the necessity of developing pedagogical technologies and teaching methods that allow intensifying the competence of studying at classes in education in order to ensure a high level of professional training; and, the classification of interactivity by types for a distance learning system has been conducted; The basic principles of interactivity in distance learning systems on the basis of information and communication technologies are considered and a number of positive results are highlighted; The scientific-theoretical bases and methodical features of application of webinars in high school are considered; The possibilities and functional features of the webinar as a progressive technology of introduction of interactive methods of teaching in the modern distance educational process are formulated; The case-case method is investigated – an instrument that allows applying theoretical knowledge to the solution of practical problems; General competencies, the formation of which contributes to the casestudio.

Keywords: distance learning, information and communication technology, interactivity, webinar, learning process, case study.

Introduction. Today, in the context of enormous changes in the social, economic and political life of Ukraine, there is a problem of radical restructuring in the field of education and upbringing, which aims to form a competitive, creative personality capable of self-determination, self-realization and self-improvement. Thus, among many modern problems of education, the most important problem is the problem of preparing citizens of our state with a high level of



knowledge, on the basis of which their consciousness and general culture are formed. In the context of the modernization of the education system, the Ministry of Education and Science of Ukraine identified new strategic goals and trends to update the content of education and upbringing of modern youth.

Therefore, traditional methods of teaching it were not enough to meet the requirements of modern life with the transition of society from the industrial to the informational era. To solve this problem, the question about the search for new forms of work in modern high school was arisen. These solving are used numerous innovative technologies such as: interactive technologies; information and communication technologies; distance learning technology; problem learning and others. Application of these technologies contributes to the development of cognitive interest of students, knowledge's enrichment and the formation their necessary abilities, oriented them on the vocational education's acquisition using modern teaching technologies, and creates conditions for improving and accessibility of education.

In addition, most legislative documents and national programs for higher education emphasize the need to increase the quality of education and grows the knowledge, continuous modernize of methods and teaching methodologies. The society consensus understanding is that education is one of the main factors of the civilization, economic development of the state, and it gives impetus to the strategic solution of problems and ensuring the systemic reform of higher education, adequate modernization and its integration into the European economic, cultural and informational space.

In view of the above, it becomes obvious that in the modern educational process the problem of innovative teaching methods remains one of the most important pedagogical and research activities in the world. In the conditions of higher education's transformational changes there is a need for constant thorough study, scientific and practical substantiation of next issues: the improve experience of innovative educational activities; the characteristics of the content of learning's interactive forms, the specifics of their use in higher education institutions; individualized, team, projection knowledge technologies; information and communication means of training; webinars, case studies and other innovations.

The main aim of the paper is to analyze the development periods of training interactive forms for the improvement of distance education; to install the basic principles of interactivity in distance learning systems based on information and communication technologies and highlight a number of positive results; to consider the scientific-theoretical bases and methodical features of application of webinars in the school; to formulate the possibilities and functional features of the webinar that is a progressive technology of the introduction of interactive teaching methods in the modern distance learning process; to research the method of case-study, which allows to apply theoretical knowledge to the solution of practical problems.

Preliminary study. The development of new technologies has always followed the new discoveries in other, sometimes adjacent, areas of human's thought development and the society's necessities [1]. The technologies of the second half of the twentieth century were based not only on the new theories of teaching psychology, but also on important discoveries that had a very strong influence on the development of all aspects of society's life. This primarily refers to the emergence of a personal computer and modern means of communication [2].

Computer technologies that appeared in the middle of the 20th century gave a powerful impetus to the development of educational technologies based on information and communication technologies [3].

From 2001 to the present day new technologies of training on the basis of information and communication technologies are actively being cultivated, computers and automatization of training means are being developed and used, a single information space of the country is created and matured and the country's education system is being integrated into a single international information and educational space. At this stage of development of the world community, great attention is paid to network technologies of communication and learning in all spheres of society's life. The development of network communication or other communication technologies has given a new impetus to the development of technologies of distance computer training, internet technologies. There was a new concept – internet education.

The use of educational technologies largely determines the conditions of education. That is, in cases where a person studies, for example, in absentia or in the evening, on weekend days, in short-term intensive courses, at last, on his own etc., when he is limited in time and in terms or is living in distant places from education spaces, when the domestic, professional, social conditions do not allow him to carry out educational activities in the usual manner, it is necessary to use the andragogical methods of training. The use of modern information and



communication technologies, in particular, interactive distance learning technologies, is effective in this case.

The analysis of publications devoted to the interactivity of modern information technologies shows that this concept is the subject of discussions, especially among distance learning educators of. Under interactivity, it is understood:

- The regular access of the learner to the learning resource through the web interfaces and receives certain learning materials from it:
 - The learner and the educational system dynamic interaction;
- A function that characterizes the modality of responses, depending on the answers of those who study, on the content of this answers and on the feedback quality.

For the distance learning system there is also the social interactivity concept such as an individual attempt to change or enhance the quality of interaction in learning, based on the human conversation interpretation, creating a sense of comfort and developing the audience management practice [4; 5].

The role of information and communication technologies in distance education. In educational practice the different forms and methods of interactive learning are being applied; the original techniques of conducting discussion, educational games are being created; the elaborations of the foreign colleagues in the field of interactive learning are being adapted, as it is clear to everyone, that they simultaneously provide the implementation of educationally cognitive, communicatively development and social oriented learning tasks [6]. Thus, interactive learning technologies have a high educational and developmental potential, provide the maximum activity of listeners in the educational process and the optimally time of training and its effectiveness [7].

Interactivity is one of the important characteristics when designing and creating distance courses. One can say that interactivity in distance learning systems is a specially organized pedagogical interaction between learners and learning resources or between learners with each other. Such pedagogical interaction in the evolving computer-based environment provides the opportunity to work with educational materials and give the ability to communicate with all participants in the learning process with the help of the modern information technologies use. It reduces the sense of isolation and anonymity that arises in the process of distance learning, which often leads to dissatisfaction, poor

quality execution of tasks and even the refusal of distance learning [8].

Classification of interactivity by the types for the sake of distance learning system is very wide. We distinguish four main types of interactivity in accordance with the classification on the basis of determining the sender and recipient of the message in the process educational interaction:

- the one who is studying,
- the one who is studying;
- the one who is studying, teacher;
- the one who is studying, educational material;
- the one who is studying, multimedia presentation management tools.

Thus, information and communication technologies enable all participants of the educational process to interact with each other, to exchange information, to jointly solve problems, to model situations, to evaluate the actions of colleagues and the own behaviour, immersed into the real business cooperation atmosphere to solve some problems in accordance to interests, needs and requests. At the same time, there is a constant change of educational activities types: games, discussions, class in small groups, a little theoretical block (mini-lecture) and other like that.

Among the main principles of interactive learning are distinguished: the principle of dialogue interaction, the principle of cooperation and partnership, the role-acting (game) principle and the coaching principle of educational process organization. In interactive learning the teacher-andragog must be a supporting, counsellor and facilitator. The central place in his activity takes not a separate adult as an individual, but a group of interacting adult students that stimulates and activates each other.

In the application of information and communication technologies, the spirit of competition and the rivalry, when people are collectively looking for truth, act the strongest on intellectual activity. In addition, there is also a psychological phenomenon like infection (not imitation but namely infection), when any thought expressed by neighbours can inadvertently induce own thought, similar or either close to the statement or, conversely, the opposite. These effects are most pronounced in gaming and coaching learning technologies.

Below are highlighted the positive results of applying information and communication technologies to distance learning:

1. Intensification of the process of understanding, mastering and



creative use of knowledge in the solving practical tasks. Efficiency is ensured by more active inclusion to the process of not only receiving, but also the using of integrated knowledge complexes. If the forms and methods of interactive learning are applied regularly, then the student's productive approaches to information sharing are formed, the fear to utter false assumptions is disappears, and trusted relationship with a teacher are established.

- 2. Increasing the motivation by bringing students to the solving educational problems, which gives an emotional impetus to the next search activity of the subjects of learning, motivates them to concrete actions; the forming an ability to think unordinary.
- 3. The experience of the establishment of the contact, mutually-depending value-rich content relations with the world (with culture and nature), people and with themselves, that is the experience of dialogical cognitive activity, of socio-moral communicative relations and self-cognition.
- 4. The providing not only increasing of knowledge, skills, abilities, ways of activities and communication, but also the formation and improvement of professional competence through the inclusion of educational process members to the meaningful outlive individual and collective activity for the accumulation of experience and for the perception and acceptance of the values.
- 5. Control of knowledge, skills and abilities becomes suppler, more flexible and humane, as the system of control over the getting of knowledge and ways of cognitive activity and over the ability to apply received knowledge in different situations can be based on the operational feedback: the possibilities of communication with the teacher and training partners, cooperation in the process of cognitive and creative activity.
- 6. The change not only the experience and the setting of the members, but also the reality, since most often the information and communication technologies of learning are the simulation of the interactive types of activities that take place in the social and state practice of a democratic society. Didactic peculiarity consists in the fact that there is often a violation of the usual logic of the teaching process is observed: not from the assimilation of theory to practice, but from the formation of a new experience to its theoretical comprehension through application.

Webinar as a progressive implementation technology of interactive learning methods in education process. One of the

progressive technologies for the introduction of interactive learning methods in the modern distance studying process are webinars, which are implemented using a set of hardware, consisting of a computer, communication devices (webcam, data transfer system, adapter, etc.) and specially created network platforms.

Webinar is one of the group interaction technologies of the educational process subjects, which unites all participants to the uniform information environment. The use of webinars gives a positive pedagogical effect, provided thorough research on the methods of their application in the educational process [9].

Webinar is a technology that suggests conducting interactive lessons in a virtual audience that provides the necessary functionality for the distance collaborative learning. In this case, virtual audience is software that simulates the environment of a real study room on the internet. Each member of the webinar performs its role, which defines the virtual class interface and functionality that can be passed to other participants.

Depending on the specific software platform, the webinar may have such features and functionalities:

- 1. Conducting audio and video conferences with the broadcast of several participants at the same time.
- 2. Instant messaging with using flip-chat. In this case it is possible to use as a general chat, when all participants see all messages, as well as private communication of two people with the ability to block incoming messages.
- 3. Demonstration of electronic resources of various formats: presentations, documents, web pages, video clips.
- 4. File sharing between the members of the webinar downloading and unloading files of differ size.
- 5. Collective work with the software the participant of the webinar with the appropriate rights (leader) demonstrates to all other participants the work in the environment of a specific software product on the screen of his computer. Also, he has the ability to transfer the rights to manage the program to any listener with a specific task.
- 6. Web tours are a way to freely visiting websites. In addition, the presenter can send participants web page addresses for independent viewing in their browsers.
- 7. Interviews and testing of webinar participants and instant visualization of results using a variety of charts.
 - 8. Whiteboard an electronic panel that serves as a board for



collaboration and has a standard set of tools: pencil, line, circle, rectangle, etc.

- 9. Breakout rooms virtual rooms for working with groups. As a rule, these rooms are equipped with tools for collective work with text, with video materials and multimedia presentations.
- 10. "Raising hand" allows the participant of a webinar to draw the attention of the leader and ask, if it is necessary, for the microphone, camera or other functionality to be turned on. The names of the participants who "raised their hand" appear in a separate window of the leader in the appropriate order.
- 11. Ability to print or save to the disk materials of the webinar in the process of it conducting.
- 12. The presence of a separate part of the virtual class monitor to host a webinar plan. Such plan is visible to all participants and its individual items may be noted in the process of their implementation.
- 13. Possibility of a participant to express emotions, in particular, consent, denial, etc., using special indicators, which compensate for the lack of live contact to some extent.
 - 14. Recording of webinar for further use and analysis.

In addition to these functional features that can be implemented during a virtual study, most software platforms allow to automate preparation for a webinar, in particular to register participants, receive statistics and inform participants about an event by e-mail and more.

Thus, the indicated didactic capabilities and functional features give grounds for recommending the use of webinars in the educational process. This technology may be used for distance learning; for execution and defence of educational telecommunication projects; for holding classes by famous educators; for consultations on various subjects; for preparing students for scientific Olympiads and competitions, etc. Webinars have significant pedagogical potential for the implementation of the distance education elements. This is due to the fact that the use only asynchronous technology requires high selforganization and independent work skills that all subjects in the learning process do not have. Therefore, distance learning is more effective in real time through webinars [10].

So, the use of webinar technology is an important learning method that differs from the usual forms of education organization. This method involves the introduction of innovative educational information and communication technologies that provide a virtual form of participants' interaction in the educational process. It is directed at substantially

improving the quality of education and at the same time at developing the information culture of the subjects of the educational process. The experience of introducing webinars has shown that this web technology is effective, has real prospects for applying interactive learning methods in the educational process and training professionals through the extensive use of specially designed web models in the learning process, especially for distance learning. They can be used for cooperation with other educational institutions inside the country and for the international cooperation.

Role of the case-study method as a tool for the realization competent approach in distance education. Most specialists define the case-study method as a group discussion for educational purposes of any problem situation and a collective search for its solution, i.e. the application of this method assumes an auditor's full-time form of training. Consider the use of a case-study in a distant format for individual obtaining of knowledge and practical skills.

Case-study – a learning system based on analysis, resolution and discussion of situations, both simulated and real; is considered one of the best methods for the development of analytical and critical thinking, as well as creativity. Students should study the situation, understand the essence of the problems, suggest possible solutions and choose the best of them. Cases are based on live actual material or on close to the actual situation [11; 12].

The case-study method was developed for use in business education and since the beginning of the 2000s has gained popularity throughout the world and has become widely used in the teaching of science and technology disciplines.

The purpose of the case-study method is to put the students in a situation where they will need to make a decision. Case is an event that actually took place in a particular area of activity and is the basis for discussion under the teacher's direction. In most incidents, when using the case, the participants are given a preliminary opportunity to get acquainted with the list of circumstances underlying which are real or imaginary situations.

A test-case for distance education is a specially prepared educational material transferred to the electronic environment that reflects a specific problem situation, which requires the adoption of creative analytical solutions to achieve the best result. At the same time, it is necessary to pay attention to the formulation of the questions in practical tasks, to fill the case with templates and clues for the solution,



also to place the accents in the theory.

The success of the test-case depends on the criteria:

- 1. Sufficient amount of initial data to analyze the situation and make a decision. The description of this situation must simultaneously cover not only a concrete practical problem, but also actualize a certain complex of knowledge that must be mastered during its resolution.
- 2. Ability to add additional data in to conditions. It leads to changes in strategic and tactical decisions.
 - 3. Multivariable achievement of the goals.
 - 4. The specialist's participation during the writing of the case.
- 5. The presence of an exciting situation, which allows you to apply a variety of analyses' methods in finding a solution.

The use of case-studies requires appropriate training for both students and teachers. The contents of the case are determined by the discipline and degree of students' training, that is, the use of case-methods requires a differentiated approach, the methodology's knowing of preparation and teaching, possession of special skills communication with the audience.

Case development is a rather difficult task. The overview of the large volume of ready-made cases and the availability of methodological material helps in the solution of this task.

If the teacher does not possess the technique of operation with cases, the effectiveness of working turns out to be minimal, no matter how interesting and successful a particular situation is.

The classic version of the situational learning model has the following structure:

Stage I – individual study by students of the situation's text in advance:

Stage II – the formulation of the main questions from the case and introductory speech by the teacher;

Stage III – students' unification in the creative groups;

Stage IV – the students' work in the creative groups;

Stage V – presentation of the decisions of each creative group;

Stage VI – general discussion, questions, speeches session;

Stage VII – the lecturer's speech, his analysis of the situation and of the discussions' process;

Stage VIII – conclusions and evaluation of students' work quality with a case.

With the use of this model, new knowledge is not transmitted from the teacher to students, but are produced directly by them, independently. These aspects are very important to carry them to consciousness of students, especially those who are accustomed to traditional forms of classes. This method is intended to awaken the student's sleeping brain and encourage him to dynamically work and to further logical analysis, which is often absent among students, as far as the psychological barrier is existing.

The role of a teacher in this model is that he must prepare a collection of cases that will meet the objectives of a particular course, taking into account the requirements for certain situations; he directs the process that leads to the discover and stimulates, in fact, "unmanageable" activities of the group.

For the effective work of students, teacher has to conceder a homework that will suggests either preparation answers for the questions for a particular situation or a written analysis of the case itself. Also, an overview of additional literature on issues specific to a particular situation can be proposed to prepare.

For a better understanding of the role of the case-study method as a means of implementing a competent approach in distance education, let us consider the above-mentioned stages in more detail. At the first stage, more attention must be paid to organizational issues:

- prepare the texts of the case itself for self-study and provide them for each student at least a few days;
 - provide another handout if it necessary;
- think about the technical support for the work of the training group;
 - think about the time distribution.

At the second stage, the teacher should complete three main tasks:

- 1) to check student's knowledge of the situation's content;
- 2) identify problems that will be the subject of discussion and solution;
- 3) to put in a corresponding position the concrete situation in the relevant section of the training course, recall the key points of the theory, direct the students to a professional approach to the analysis of the situation.

The following stages are characterized by the fact that the teacher's work turns into an "invisible hand", which regulates the process of analyzing a particular situation, providing impromptu assistance to the group that needs it. The teacher watches the discussion process; he puts questions in time that helps students take a



step forward, while at the same time him is assessing the value of the ideas offered earlier; he is capable of linking the performances of individual students in such a way that not only they but the entire group can understand their meaning; he has a sense of time that tells him that the discussion is going on too slowly or too fast, so the learning process should be optimized.

It should be noted that the teacher in the process of analyzing a particular situation should have a good knowing of the content of the course and its inter-subject interconnections, directed the discussion's process. This is a very difficult and responsible task, which can only be solved by careful systematic training for classes.

Didactic feature of using the specific situations method is that the teacher's main work begins long before the classes' stage. The better well-regulated, but not noticeable, not dominant role of the teacher in the audience, the more thorough preparation work was carried out by him. In the process of preparation, it is necessary not only to systematize the material, think up an approximate plan of discussion, additional questions for activating the discussion, but also analyze the readiness of a particular group for such work.

At the seventh stage of work in the audience, the teacher must make a final performance. In case-study learning it is important not so much the end result but the process of its finding, because it is in this way that the leader's professional qualities develop. In addition, the case-study method assumes that any decision may be correct if it is substantiated. Therefore, the teacher, summing up, analyzes not only the situation itself but also the discussion. He substantiates his position concerning the situation's essence and at the same time evaluates the representative's performances of creative groups, tactfully defining errors, theoretical "gaps", proves the need to study the theoretical foundations of the problem. It is advisable to offer students the solution of the situation as it happened in life (although this does not mean that this variant is optimal).

The final and rather complicated stage in the teacher's work is the evaluation of the results of student training using the case-method.

The criteria for evaluation are:

- student's activity in the discussion of the case: constructive original proposals for effective solution of the problem situation; adequate application of theoretical knowledge of the course studied; use of interesting additional factual material and statistics for argumentation of student's proposals; ability to distinguish and identify

problems, ask questions based on a specific situation; skills to express their own position clear, logical, and structured in the process of discussion;

- participation in the work of the creative group: participation in the preparation of the group project (can be determined by the members of this group as the coefficient of labour participation of each student in the development of the project); presentation of the group's decision project in the process of discussion;
- independent work in preparation for the lesson: the ability to analyze a particular situation (with conclusions, problems, questions); preparation of additional theoretical tasks (abstracts, reviews of primary sources).

Although the case method mainly assume work in groups, however, like every teaching method, it is aimed at improving the skills and abilities of each individual student, the strengthening's of individual participation of which is promoted by described below factors:

- the teacher's desire to understand the individual motivation of each student and the nature of the relationships in the group;
- gradual involvement of all students in the discussion through work in pairs or small discussion groups: students will get collective support for their thoughts and will feel psychologically more comfortable, expressing not just an private but a collective opinion;
- attract those students who have not yet spoken, into the discussion that has already unfolded and acute, asking questions to them individually;
- positive attitude towards the performances of students who have finally decided to express their opinion;
- the proposal to give written answers to some questions of the case;
- periodic change in the subgroup structure: the neglect of this factor leads to stereotyped behaviour in the subgroups, the emergence of leaders and performers who play their role "habitually", and the change in the subgroup structure may give the student the opportunity to test himself in an unusual role;
- recognition and emphasis on the personal right of each student not only to speak up, but also to be heard;
- formation of ability to listen, which is a key feature of any successful specialist. It is appropriate to introduce a rigid rule: one can express own view when one's up hand and obtain the permission of the person who manages the discussion (this role is mainly performed by



the teacher, but sometimes it may be done by one of the students). Observance of such a rule will hold back too active students who are always ready to speak immediately without much cogitation and for any reason, and will allow to speak those, who because of their own temperament, do not want to shout.

Thereby, considering that education should meet market needs, and abstract knowledge disconnected from the real situation give a little of use, the student is interested in the fact that the knowledge gained at an educational institution could easily be applied in practice. An ideal tool for achieving this goal is a case-study method that helps students to deeper understand the theme, develop their imagination; to get ground for checking the theory, researching ideas, identifying regularities and relationships, formulating hypotheses; to awaken interest, to warm up curiosity, to encourage thinking and discussion; to receive additional information, to deepen knowledge; to make sure of the views; to develop and apply analytical and strategic thinking, ability to solve problems and make rational conclusions; to develop communication skills; to combine theoretical knowledge with the realities of life, transform abstract knowledge into values and skills.

Conclusions. The importance of research the development of interactive learning forms for the improvement of distance education is due to the fact that modern youth need completely new set of abilities than their predecessors, in particular: creativity and intellectual curiosity – ability to originality and innovation; critical and systematic thinking – thinking that enables a person to formulate plausible judgments for defining, analyzing and solving problems; communicative skills – use of different types of communication; skills of personal and group interaction – ability to cooperate with others; IT awareness – use of information and media; the ability to self-education and the ability to adapt to the conditions of learning in other cultures and societies. Since traditional methods of training became not enough to meet the requirements of modern life, the question about the search of new forms of work in the school arose.

Taking into account the aforementioned material, we can do the conclusion that the use of interactive forms and methods in distance education enables not only to increase the amount of student's information, but also to teach him how to apply this information in everyday life practice. A case-study method, which is also considered and analyzed in detail in this paper, is one of the most effective and practically important among modern methods of interactive learning in

our opinion. The application of this method contributes to the understanding that any of the sciences does not exist by itself, but is closely related to life, and the acquired knowledge and skills can be useful in any life situation – both in professional and in social level.

Using the interactions in the distance learning process is possible thanks to modern information and communication technologies, in particular the platforms for conducting webinars that we have been considering. It contributes to the formation of skills and abilities both of subject and general education; development of vital values; creating an atmosphere of cooperation and interaction; development of communicative qualities. This technology provides modelling of life situations, using the role-playing games and joint solving the problem.

As a result of the optimal using of various interactive teaching methods, is being created and implemented a model of creative personality. This personality not only possesses communication skills, understands the process and phenomena of the subject area, but also is able to independently work on improving its own intelligence, culture and morals, revealing its creative potential that is the basis for successful further person's professional development.

We can conclude that interactive technology is a special organization of learning and is the formation of certain skills and abilities through the set of educational-cognitive actions, organized by the teacher in a particular way. These actions are consisting in active interaction of students between themselves and the construction of interpersonal communication in order to achieve the intended result.

Summarizing the paper should say that the development periods of training interactive forms for the improvement of distance education was analyzed; the basic principles of interactivity in distance learning systems based on information and communication technologies and highlight a number of positive results was installed; the scientific-theoretical bases and methodical features of application of webinars in high school was considered; the possibilities and functional features of the webinar that is a progressive technology of the introduction of interactive teaching methods in the modern distance learning process was formulated; the method of case-study, which allows to apply theoretical knowledge to the solution of practical problems was researched.

^{1.} Інноваційні педагогічні технології: теорія та практика використання у вищій школі : монографія / І. І. Доброскок, В. П. Коцур, С. О. Нікітчина, та ін. Переяслав-Хмельниц. держ. пед. ун-т ім. Г. Сковороди, Ін-т пед. освіти і



освіти дорослих АПН України. 2008. 284 с. 2. Феномен інновації: освіта, суспільство, культура : монографія / В. Г. Кремень, В. В. Ільїн, С. В. Пролеєв та ін. Київ, Ін-т обдар. дитини АПН України. 2008. 471 с. 3. Інновації у вищій освіті: проблеми, досвід, перспективи : монографія / П. Ю. Саух, О. Є. Антонова, О. С. Березюк та ін. Житомир, ЖДУ ім. І. Франка. 2011. 443 с. 4. Абдалова О. И., Исакова О. Ю., Левшенкова И. П. Особенности использования массовых открытых онлайн-курсов в обучении. Высш. образование сегодня. 2014. № 8. С. 39–41. 5. Галиця І., Галиця О. Інтелектуально-конкурентні ігри як креативний механізм активізації педагогічного, наукового та інноваційного процесів. *Вища школа*. № 1. 2011. С. 104–107. **6.** Вахрушева Т. Ю. Інтерактивні технології навчання як засіб активізації навчально-пізнавальної діяльності студентів. Нові технології навчання. Київ. Вип. 47. 2007. С. 64–69. 7. Коваль Т. І. Підготовка викладачів вищої школи: інформаційні технології у педагогічній діяльності : навч.-метод. посіб. Київ, Вид. центр НЛУ. 2009. 380 с. 8. Козяр М. М., Зачко О. Б., Рак Т. Є. Віртуальний університет : навч.метод. посіб. Львів, Львівський державний університет безпеки життєдіяльності. 2009. 168 с. 9. Морзе Н. В., Ігнатенко О. В. Методичні особливості вебінарів, як інноваційної технології навчання. Інформаційні технології в освіті. Вип. 5. Херсон : ХДУ. 2010. С. 31–39. **10.** Динцис Д. Методические особенности проведения вебинаров на краткосрочных курсах по методике «in-class» [Methodical features of conducting webinars on short-term courses in the "in-class" methodl. URL: http://www.trainings.ru/library/articles/?id=13183 (дата звернення: 10.11.2018). 11. Thomas G. How to Do Your Case Study: A Guide for Students and Researchers / Gary Thomas // Thousand Oaks, CA: Sage Publications. 2011. PP. xi, 231. 12. Klonoski R. The case for case studies: Deriving theory from evidence / R. Klonoski // Journal of Business Case Studies. № 9(3). 2013. PP. 264.

REFERENCES:

1. Innovatsiini pedahohichni tekhnolohii: teoriia ta praktyka vykorystannia u vyshchii shkoli: monohrafiia / I. I. Dobroskok, V. P. Kotsur, S. O. Nikitchyna, ta in. Pereiaslav-Khmelnyts. derzh. ped. un-t im. H. Skovorody, In-t ped. osvity i osvity doroslykh APN Ukrainy. 2008. 284 s. 2. Fenomen innovatsii: osvita, suspilstvo, kultura: monohrafiia / V. H. Kremen, V. V. Ilin, S. V. Proleiev ta in. Kyiv, In-t obdar. dytyny APN Ukrainy. 2008. 471 c. 3. Innovatsii u vyshchii osviti: problemy, dosvid, perspektyvy: monohrafiia / P. Yu. Saukh, O. Ye. Antonova, O. S. Bereziuk ta in. Zhytomyr, ZhDU im. I. Franka. 2011. 443 s. 4. Abdalova O. Y., Ysakova O. Yu., Levshenkova Y. P. Osobennosty yspolzovanyia massovykh otkrytykh onlain-kursov v obuchenyy. Vyssh. obrazovanye sehodnia. 2014. № 8. S. 39–41. 5. Halytsia I., Halytsia O. Intelektualno-konkurentni ihry yak kreatyvnyi mekhanizm aktyvizatsii pedahohichnoho, naukovoho ta innovatsiinoho protsesiv. Vyshcha shkola. № 1. 2011. S. 104–107. 6. Vakhrusheva T. Yu.

Interaktyvni tekhnolohii navchannia yak zasib aktyvizatsii navchalnopiznavalnoi diialnosti studentiv. Novi tekhnolohii navchannia. Kyiv. Vyp. 47. 2007. S. 64-69. 7. Koval T. I. Pidhotovka vykladachiv vyshchoi shkoly: informatsiini tekhnolohii u pedahohichnii diialnosti : navch.-metod. posib. Kyiv, Vyd. tsentr NLU. 2009. 380 s. 8. Koziar M. M., Zachko O. B., Rak T. Ye. Virtualnyi universytet: navch.-metod. posib. Lviv, Lvivskyi derzhavnyi universytet bezpeky zhyttiediialnosti. 2009. 168 s. 9. Morze N. V., Ihnatenko O. V. Metodychni osoblyvosti vebinariv, yak innovatsiinoi tekhnolohii navchannia. Informatsiini tekhnolohii v osviti. Vyp. 5. Kherson: KhDU. 2010. S. 31-39. 10. Metodycheskye osobennosty provedenyia kratkosrochnыkh kursakh po metodyke «in-class» [Methodical features of conducting webinars on short-term courses in the "in-class" method]. URL: http://www.trainings.ru/library/articles/?id=13183 (data zvernennia: 10.11.2018). 11. Thomas G. How to Do Your Case Study: A Guide for Students and Researchers / Gary Thomas // Thousand Oaks, CA: Sage Publications. 2011. PP. xi, 231. 12. Klonoski R. The case for case studies: Deriving theory from evidence / R. Klonoski // Journal of Business Case Studies. № 9(3), 2013. PP. 264.

Рецензент: д.т.н., професор Сафоник А. П. (НУВГП)

Газдюк К., аспірант (Чернівецький національний університет імені Юрія Федьковича, Чернівці), Нікітіна О., к.т.н. (Національний технічний університет "Харківський політехнічний інститут"), Пилип'юк Т., к.т.н. (Кам'янець-Подільський національний університет ім. Івана Огієнка, м. Кам'янець-Подільський)

ВИКОРИСТАННЯ ІНСТРУМЕНТІВ ІНФОРМАЦІЙНИХ ТЕХНОЛОГІЙ ДЛЯ ПОКРАЩЕННЯ ДИСТАНЦІЙНОЇ ОСВІТИ

У статті висвітлюються інноваційні процеси розвитку педагогічних технологій і методів навчання, що дозволяють інтенсифікувати компетентності навчання на заняттях у навчальному закладі задля забезпечення високого рівня професійної підготовки; проведено класифікацію інтерактивності за типами для системи дистанційного навчання; розглянуто основні принципи інтерактивності у системах дистанційного навчання на основі інформаційнокомунікаційних технологій та виділено ряд позитивних результатів; розглянуто науково-теоретичні основи та методичні особливості застосування вебінарів у навчальних закладах; сформульовано можливості та функціональні особливості вебінара, як прогресуючої технології впровадження інтерактивних методів навчання у су-



часний дистанційний освітній процес; досліджено метод кейс-стаді, що дозволяє застосувати теоретичні знання до вирішення практичних завдань; встановлено загальні компетенції, формуванню яких сприяє цей метод.

Ключові слова: дистанційне навчання, інформаційно-комунікаційні технології, інтерактивність, вебінар, навчальний процес, кейс-стаді.

Гадзюк К., аспирант (Черновицкий национальный университет имени Юрия Федьковича, Черновцы), Никитина О., к.т.н. (Национальный технический университет «Харьковский политехнический институт»), Пилипюк Т., к.т.н. (Национальный университет Каменец-Подольский Иван Огиенко, г. Каменец-Подольский)

ИСПОЛЬЗОВАНИЕ ИНСТРУМЕНТОВ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ ДЛЯ УЛУЧШЕНИЯ ДИСТАНЦИОННОГО ОБРАЗОВАНИЯ

В статье освещаются инновационные процессы развития педагогических технологий и методов обучения, позволяющие интенсифицировать компетентности обучения на занятиях в учебном заведении для обеспечения высокого уровня профессиональной подготовки; проведена классификация интерактивности по типам для системы дистанционного обучения; рассмотрены основные принципы интерактивности в системах дистанционного обучения на основе информационно-коммуникационных технологий и выделен ряд положительных результатов; рассмотрены научно-теоретические основы и методические особенности применения вебинаров в учебных заведениях; сформулировано возможности и функциональные особенности вебинара, как прогрессирующей технологии внедрения интерактивных методов обучения в современный дистанционный образовательный процесс; исследован метод кейс-стади, что позволяет применить теоретические знания к решению практических задач; установлены общие компетенции, формированию которых способствует этот метод.

Ключевые слова: дистанционное обучение, информационнокоммуникационные технологии, интерактивность, вебинар, учебный процесс, кейс-стади.