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## Use of Interactive Methods in Distance Education: Current Challenges and Realities

### Summary

The article substantiates the relevance of the problem of implementation of interactive teaching methods in the process of future teacher's distance (mixed) training in higher education institutions. The theoretical aspects of the outlined problem are covered through the analysis of the content of the main concepts: interactive technologies, dialogue, educational dialogue, distance education, etc. Considerable attention is paid to the presentation of the philosophical and didactic principles of future teacher training to use interactive technologies (in particular, the principles of humanism, anthropological perspective, nature conformity, educational feedback interaction, pedagogical optimism, scientific organisation of the educational dialogue, the communicative orientation of teaching, speech ethics, modelling problem situations in education. Some types of interactive learning are presented and recommended for working with students in teaching socio-humanitarian, natural science, and math disciplines. The necessity to develop future teachers' communicative activity, critical thinking, and team interaction to conduct constructive dialogues, considering the realities of online and offline learning, is emphasised.

**Keywords:** interactive learning technologies, distance education, dialogic learning, teacher training, higher education institution

### Introduction

In modern conditions of the active implementation of distance education throughout the world due to the covid-19 pandemic (and in most Ukrainian educational institutions, it is due to the military invasion of Russia), the problem of establishing active student communication, and developing soft skills for quicker adaptation to social challenges is extremely acute (Rembierz, 2021). Scientists are paying more attention to the challenges, positive aspects, and difficulties of the distance professional training of specialists (Cahoon et al., 2021).

Interactive technologies (Liu et al., 2018) effectively solve these and other pedagogical tasks in higher edu-

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cation, which should also be implemented in the distance (mixed) education. “Thus, the progress of science and technology is one of the reasons for the strengthening of requirements for new teaching methods (distance learning), variability of educational programmes, and academic mobility of students and professors from different countries or continents” (Tsenda & Budnyk, 2021)

The word “interactive” comes from the English “interactive” (“inter” means “mutual”, “act” means to act). So “interactive” means active interaction between all subjects of the educational process. A dialogue with something (a computer) or somebody (a person) makes it possible to implement various educational innovations. Interactive classroom technology is a type of educational technology (EdTech) that allows students to learn new material and interact while consolidating or applying it in practice. Therefore, interactive learning is, first of all, dialogic learning, when the teacher and students interact. It largely concerns various forms of assessment of learning outcomes using digital tools, the dynamics of formation of the interactive educational experience for solving problems, group work, etc. (Candil et al., 2021).

The interactive teaching approach stimulates the development of students’ creative abilities and cognitive initiative. As “active learning produces gains to both lower- and higher-order cognition at levels equal to, and more often, greater than the use of passive learning methods” (Harris & Welch Bacon, 2019).

*The purpose of the article* is (1) to highlight the theoretical aspects of the implementation of interactive technologies in the educational process of higher education institutions in the distance (mixed) form of education; (2) to outline the didactic principles of teacher’s training to use interactive technologies in professional activities; (3) to substantiate the methods of dialogic learning in higher education.

## Theoretical Analysis of the Main Concepts of the Research Topic

The category “dialogue” (Greek *dialogues*) has three main meanings: 1) a conversation between two or more people (figuratively: a literary work written in the form of a conversation; 2) a conversation, an exchange of thoughts; 3) negotiations; conversations in the order of mutual probing (*A large explanatory dic-*

*tionary*, 2002, pp. 225–226). The article’s authors will use all the meanings. Instead, they will not limit themselves only to the “conversation between the subjects of communication” but also determine the meaning of this communication and its spiritual value.

This interpretation of the problem of dialogue, based on the analysis of philosophical and pedagogical sources, has a certain tradition and a sufficient level of substantiation (the principle of dialogic learning since ancient times: between a teacher (Socrates) and a student (Plato) is indicative in this regard (Peterson, 2011).

Dialogue is a new interaction requirement in the system “teacher-students”, based on tolerance, without destroying the other’s opinions. Dialogue is a form of spiritual communication when the participants’ semantic intentions do not simply mean to complement each other but complete a unity that cannot be diminished to a simple sum of different views, judgments, and reflections (Kondrashov, 2019, p. 359).

Educational dialogue is a kind of interpersonal communication in which experience, relevant knowledge, and skills are exchanged. Two communicators usually participate in the dialogue, teachers and students, concerning the educational process. This interaction serves as a means of activating cognitive activity in the conditions of the designed educational situation. Information exchange in the form of communication helps enrich the participants of the educational dialogue with new knowledge and regulate relations between them, to promote the humanisation of the educational process, upbringing, and development. In higher education, it is expedient to use educational dialogue to improve students’ communicative culture, particularly in the distance/mixed form.

Today, the most suitable for many institutions is a *blended learning model*, which combines all these technologies, i.e., a distance learning system with a traditional one. The blended learning model includes traditional and computer-mediated student learning. Thus, blended learning is a purposeful, systematic process of interaction between learning subjects, which organically combines traditional and distance learning models, takes place in the classroom and out, in synchronous or asynchronous modes, and involves the widespread use of ICT working with students (Budnyk et al., 2021).

There are the following *types of distance learning*: traditional distance learning (interaction between

subjects is delayed in time) and e-distance learning (interaction between participants is both asynchronous and synchronous in time, and is based on the use of modern ICT) (Bykov, 2011).

*E-distance learning (e-DL)* is a “type of distance learning in which participants and organisers of the learning process interact both asynchronous and synchronous in time, mainly using electronic transport systems for delivery of teaching aids and other information objects, computer networks Internet / Intranet, media teaching aids, and information-communication technologies. Network e-DL systems are also called Distributed Learning Network systems or simply Distributed Learning” (Bykov, 2011).

*Digital competence* of the individual includes a system of knowledge, skills, and attitudes (including abilities, strategies, values, and awareness) that are necessary for the use of information and communication technologies and digital media to perform tasks, problem-solving; communication; information management; cooperation; creation and distribution of content, etc. (Ferrari, 2012, pp. 3–4).

## Philosophical and Didactic Principles of Preparing Teachers for Interactive Learning

Modern distance learning is considered an innovative pedagogical technology or set, which involves the interaction of already known educational methods, taking into account general pedagogical requirements for the organisation of the educational process in an educational institution. Traditional philosophical and didactic teaching principles are the basis for distance learning.

So, let us characterise the main principles of education.

We consider the *principle of humanism* to be fundamental in the organisation of dialogic learning in an educational institution. It declares recognition of the student as the highest value of society, respect for their rights and freedoms, and empathy as the ability to accept other communicators’ points of view and regulate emotional states appropriately.

It did not happen by chance that French philosopher Michel Montaigne, who highly appreciated da Feltre’s pedagogical activity for his humane attitude

toward the child, and adherence to the principle of individualisation of teaching, wrote: “If teachers teach their many students, as it is mostly done, giving them all the same lesson and demanding from them the same behaviour, although their abilities are not the same in strength and character, then there is nothing surprising that among a large number of children there are only two or three children who are genuinely benefiting from such training” (Montaigne, 1991, pp. 121–122).

The *principle of anthropological orientation* is the direction of the content of professional education to the integrative study of a human, the recognition of the self-esteem of the individual student as an active subject of the educational and cognitive process, taking into account the personal characteristics of its development in the process of mastering professionally significant values based on humanism and spirituality.

The most complete form of philosophical and pedagogical anthropology was proved by the ingenious thinker and teacher K. Ushynsky. The scientist supported the idea of anthropology as the science of human knowledge in all its integrity. He treated representatives of various philosophical and pedagogical trends critically, who interpreted the human’s essence, quality, and purpose too simply. In particular, the scientist categorically denied the views of the representatives of so-called nativism (J. Muller, K. Stumpf), who claimed that a person is born already with formed ideas, so training and education only direct this process of idea and quality development. He also denied the ideas of representatives of empiricism (J. Locke, E. Condillac, etc.), who considered the person to be a “clean board”, and the educator could write on it down everything he considered to be necessary.

K. Ushynsky proved that a person is constantly in a dynamic development, and creative search, therefore, the teacher should be well aware of this process and do everything necessary to develop the creative potential of the individual. It is worthwhile, in our opinion, to pay attention to such an important aspect: the thinker and educator emphasised that human heredity is much more important for the person than organic heredity, which is evident in habits, and inclinations, instead, under no circumstances it will replace the need for conscious self-expression, self-reflection. That is why Ushynsky (1983) believed

that a teacher guided by philosophical and pedagogical anthropology could prepare a child for a real, free, decent life.

The *principle of feedback in educational interaction* means focusing on the participants' linguistic behaviour in the educational process (teachers' and students'), their verbal and non-verbal feedback (reactions) in dialogic interaction, as well as the teacher's (or another student's) evaluation of the results of dialogic learning. Feedback can be external (eye contact, hearing, tactile analyser) and internal (from proprioceptors), which means a signal about the consequences of the exercise and its evaluation. In addition, in the educational process of primary school, feedback can be formal and informal. Thus, in the process of informal feedback, the teacher can be a direct (equal) partner in dialogic learning, sitting at the same table. In this way, schoolchildren can receive appropriate advice on better assimilation of knowledge or adjust their assimilation. Informal feedback also includes consultations and individual work.

The *principle of nature conformity* means considering a junior high school student's multifaceted nature in organising dialogic education, particularly his psychological, age, social, national, gender, and other characteristics.

Who was an ideal person for J. Comenius?

He stated that a person should be holistic, and humane, with a high level of consciousness and responsibility. According to J. A. Comenius, it is the main goal of education and upbringing. In this sense, he wrote: "... the threefold purpose of educating the youth must be firmly established: 1. Faith in piety. 2. Good behaviour. 3. Knowledge of languages and sciences. And all this in the order in which it is proposed here, and not vice versa. First of all, it is necessary to teach children piety, then – good behaviour, and in the end – more useful sciences. The larger progress in this last point they will be able to make, the better" (Comenius, 1940; 1982; Budnyk & Vasionovych, 2017, pp. 85–89). At the same time, the outstanding teacher emphasised that this goal is not determined and realised by only external factors but resulted from the very nature of a person, it directs her to self-improvement, to the responsibility of human purpose – to be a person.

The *principle of the scientific organisation of educational dialogue* means the scientific and pedagogical

search and implementation of the teacher's pedagogical activity, taking into account cause and effect relationships in the discussion material selection, analysis, and designing of situations for dialogic interaction.

In this context, it is worth mentioning the synergistic approach to education, as one of the important characteristics of synergistic is the constructive role of chaos (until very recently, in historical discourse, such an approach was impossible, especially in pedagogy, because scientists used strict determinism in their theory, therefore the main role was played by certain regularities in the system of education and upbringing). Therefore, it is important to investigate how this chaos can result in order, organisation, or (using synergists' definitions) to understand how dissipative structures, certain "irregular sequences" are formed. The internal processes in such a situation are the exact opposite: the forces of stabilisation and destabilisation fight in a chaotic environment. They are destructive forces, and therefore non-linear mechanisms are in demand, as they are more radical and capable of preserving the system of a new quality. The process of qualitative changes occurs in the bifurcation zone, thanks to which a new structure of a certain system is formed, it becomes relatively stable (this is the so-called "attractor" when new forces reject old and "attract" new). This process occurs in the educational system, specifically in the organisation of the educational process, in which dialogic learning plays an increasingly prominent role. And this whole process (non-linearity) takes place in the mode of aggravation, which with internal necessity results in localisation (limitation). Both teachers and students feel these modes of aggravation (for example, systematic overloads with scientific, organisational, or teaching work, and currently also with the development of e-resources for distance learning, lead to teacher burnout, indifference, and even depression, and students – to various diseases, loss of desire and motivation to study and learn, etc.). Under these circumstances, dialogic learning cannot be effective, it loses its meaning, because the conditions do not correspond to its organisation and content. That is why it is so important to create the necessary conditions for it, especially the theory of self-organisation, since it is the synergy that ensures the restructuring of the teachers' and students' perceptions of

the world. Philosophical and pedagogical synergy is a powerful step toward understanding human phenomenon, potential development, and creative growth, where dialogic learning should be its starting point. Therefore, in the course of interactive learning, it is important to analyse the content and conditions of the organisation and self-organisation of dialogic learning, to search for effective ways to improve and introduce innovative elements. At the same time, it is important to monitor the formation of students' and teachers' worldviews and apply corrective influences to spiritualise them skilfully.

In communication (dialogue), understanding/misunderstanding occurs between communicators. And it is important to consider the organisation of student interaction. Fr. Schleiermacher distinguished three levels of understanding: at the lowest (every day) level, understanding takes place unconsciously (mechanically); on the second level – understanding – in special hermeneutics; only at the third level, understanding is carried out as art. The philosopher formulated the principle of the “hermeneutic circle” (circle of understanding). The circle of understanding begins from the whole and goes to the partial, and vice versa, it can be “broken” precisely for understanding to occur. A personality must learn to understand another personality at a moral-aesthetic (spiritual) level when communication should play the main role. It acts as a creative force, and thanks to it, the culture of dialogue, and human perception of the world take place.

The *principle of communicative orientation* concerns the ability to express thoughts and opinions clearly and reasonably and listen to the interlocutor to design situations considering students' capabilities, needs, and interests. The German philosopher V. Dilthey described this approach in his works at the psychological level. In addition, in dialogue, the scientist attached significance to human experience, which should be actively acquired from childhood in the family, school, education, and upbringing. The true art of understanding and listening is always accompanied by inner experience, enabling the spiritual unity of people, their striving for mental and spiritual perfection, and self-expression.

The *principle of modelling problem education situations* means designing typical and atypical situations as functional units of oral speech. At the same

time, in the context of dialogic interaction, each education participant must clearly understand their role in solving the problem education situation and improve it.

The *principle of the relationship between theoretical knowledge and practical application* means being aware of the importance of theoretical learning and practice-oriented experience in the educational content and implementation of empirical knowledge in the process of dialogic learning activity.

The *principle of ethical speaking*. In dialogic education, the teacher must adhere to the basic principles of a person-oriented approach and create a positive atmosphere for information exchange. Politeness, tolerance, restraint, benevolence, and humanism are necessary for teachers (Sajdak-Burska, 2018).

H. Vasianovych carried out methodological approaches to human communication based on existential theory, particularly in education. According to the scientist, “communication in society, a team, is of more quantitative than qualitative nature, therefore the sphere in which an individual exists prompts him/her to “close” the soul. Therefore, the individual's consciousness is pressed by social and actual factors, not allowing them to reveal full human strengths. The scientist concluded that communication becomes formalised, and inauthentic, characterised by cunning, falsity, insincerity, etc. This factor devalues the meaning of life, and human existence becomes absurd. If we abstract from the absolutisation of this opinion, which got a comprehensive justification in A. Camus, we can admit that today it is one of the urgent problems for pedagogical research. After all, it is obvious that the quality of communication in student communities, between teaching staff, teachers and students directly affects their existence, the acquisition of a future profession, and ultimately, a complete personality development” (Vasianovych, 2013, pp. 15–16). These theses are important in the context of organising an educational dialogue based on freedom of thought, tolerance, openness, and partnership.

The *principle of pedagogical partnership* is the cooperation of the school and the student's family in achieving the goals of the educational dialogue, based on mutual respect, trust, and benevolent attitude toward all participants of the educational process, distributed leadership, and responsibility for

solving educational problems and fulfilling the obligations assumed. In the research, we focused on the principles of partnership: respect for the individual; benevolence and positive attitude; trust in relationships; dialogue – interaction – mutual respect; distributed leadership (proactivity, right to choose and responsibility for it, horizontality of connections); principles of social partnership (equality of parties, voluntary acceptance of obligations, obligation to fulfil agreements).

The *principle of pedagogical partnership* in the conditions of a higher education institution presupposes, first of all, a focus on the collective students' interaction in solving educational tasks: a) students actively communicate with each other, improve their knowledge, communication skills, and abilities; b) between the participants of the educational process, proper relations are created, and mutual relations characteristic of the group are formed, which serve as a condition and a means of increasing the effectiveness of learning, for example, the English language or its teaching methods; c) an important prerequisite for everyone's success means the group success.

The *principle of pedagogical optimism* in education is based on emotional elevation, tolerance, and psychological comfort in an appropriate dialogue environment. As a result of the dialogue, the truth should be born. The moral and psychological atmosphere promotes the search for this truth in exchanging thoughts and ideas, which contributes to developing communicators' creative potential, intellectual and emotional features, etc.

The *principle of taking into account students' characteristics*. Developing a distance course considers the individual characteristics of the student's personality at three levels: psychophysiological, psychological, and social-psychological, as well as the level of their basic readiness for distance learning. To ensure visual perception in distance education, the *principle of virtualisation of education and systematic structuring of information* is used, when various symbols, video films, computer training programmes, interactive methods, etc. are applied (Trokhymenko, 2004).

The *principle of multi-functionality of tasks* means the parallel mastering of vocabulary and speech activity. At the same time, the scientist proceeds from the fact that any exercise is monofunctional for students – they solve a communicative task. For the

teacher, it is multifunctional aiming at solving several tasks in one exercise. These tasks should be motivating and communicative, with a gradual loosening of the control over future teachers' speech activities.

## Methods of Interactive Training of Students: Challenges of Distance Education

The fundamental training of the future teacher is the basis for forming their professional competence and readiness to accomplish pedagogical tasks in the educational process. It is important to abandon traditional teaching methods and implement innovations (Fomin et al., 2020).

Interactive technologies in higher education, primarily in training a specialist in the “human-human” field (teacher, doctor, manager, etc.), is a special form of cognitive activity during which scientific and educational information is mastered.

The educational process based on interactivity involves the practical engagement of most participants in the learning process, they get the opportunity to understand and reflect on what they know and think about the topic under discussion (Bertau & Tures, 2019). At the same time, it is necessary to provide an appropriate environment for educational dialogue – an atmosphere of benevolence, tolerance, and mutual support – a form of cooperation (Fomin & Budnyk, 2020). It is very important in distance learning (Nieduziak, 2022) because there are certain difficulties in the organisation of interactive (“live” communication) of students so that they could feel the emotional and psychological participants' states of mind and develop their professional communication skills.

In teaching social and humanitarian, artistic or natural, and mathematical disciplines, dialogic training of students should be carried out in the forms of individual, pair, and group work. At the same time, learning should be regarded as research; business games are implemented, as well as work with e-manuals and other scientific information using ICT. This type of education process allows solving several important educational tasks simultaneously, such as the development of communication skills and abilities; ensuring emotional contact between students; teamwork, listening to the opponents' opinions; reducing

the listeners' nervous load, and making it possible to change the forms of their activity, to switch attention to the main issues of the topic. In modern educational practice, various types of interactive learning are used, but usually, it is a kind of "mix", a combination of various methods and the teacher's pedagogical creativity (Budnyk et al., 2021).

Thus, the most common methods inducing effective interaction in the educational process are:

- 1) "brainstorming method" makes it possible to solve several educational tasks, including complex questions, expressing as many ideas or answer options as possible in a limited time;
- 2) "round table" is a method of conducting a class with students who often already have some pedagogical experience, in the form of a presentation or discussion. It is extremely important because participants in the educational process can ask questions, seriously argue approaches to solving pedagogical problems (possible challenges), and report on successful or unsuccessful experiences of working with students, including during pedagogical practice at school.
- 3) discussion is also a method of active learning, as it mobilises theoretical knowledge and practical skills, and the listeners' views on the problem under consideration. Discussion is appropriate when analysing controversial issues, but in the educational process, situations of conflicting interpretations may not arise. Therefore, the discussion often develops spontaneously, so the teacher should always be ready for pedagogical improvisation and try to choose topics to involve as many students as possible in dialogic interaction;
- 4) situational analysis means that educational process participants must, first of all, get acquainted with the problem, analyse the situation independently, and diagnose various options for its solution in discussion with other listeners. Therefore, the following situations are distinguished: situations-illustrations, situations-assessments, and situations-exercises.
- 5) "case study" is a type of situational analysis, often considered a separate interaction method, including a step-by-step discussion of individual cases.

Educators also differentiate the technique of "creating an information gap", the essence of which is that the teacher intentionally omits some valuable information during the lesson. Students must identify this moment in the lecturer's speech, accordingly, with the help of a series of questions and answers, obtain the necessary information, that is, find the "informational gap" in the logic of the lecturer's presentation. It stimulates attentiveness, activity, the ability to listen, analyse, participate in educational dialogue, etc.

It is worth emphasising that the introduction of interactive technologies in higher education allows not only to activate dialogic interaction and communication skills in the teaching profession. Masterful implementation of these methods makes it possible to solve the following educational goals: development of analytical thinking, application of analysis in dynamics; mastering practical skills of working with information: identifying, structuring, and ranking current pedagogical problems according to their importance; development of management decisions; mastering modern socio-psychological technologies; enhancing of communicative competence; formation of the ability to choose optimal options for effective interaction with other people; stimulating the introduction of educational innovations; increasing motivation to study the theoretical aspects of the outlined problem, etc.

## Conclusions

Globalisation, digitalisation, and social challenges are conditioned by the intensive introduction of innovative technologies and teaching methods to train highly qualified teachers in higher education. "Today, the University must become a competitive education and research centre of international level, because it combines: training, development, personal and professional growth of members of the university community; base for basic and applied experimental research; platform of the social formation of future specialists; business incubators; quality life-long learning and partnership at the regional, national and international levels for the implementation of the concept of sustainable development in the context of globalisation, digitalisation, and technology development" (Tsendenda & Budnyk, 2021). Inter-

active learning technologies are among the widespread innovations that develop students' communicative activity, critical thinking, readiness for discussion and presentation of their ideas, etc. Responding to societal challenges, digitalisation has led to the transition of higher education institutions to distance/blended learning. In this context, it is important not only to provide these institutions with digital technologies, educational and methodological support, electronic resources, etc. To effectively organise the educational process, it is necessary to increase the level of digital literacy of teachers and students to work in a digital educational environment online or offline.

At the same time, we emphasise the importance of innovative approaches to the professional training of specialists in higher education, in particular, the development of their interactive abilities, communicative culture, and experience in social and pedagogical interaction. It is about readiness to use digital technologies to ensure effective interaction in distance or mixed learning conditions.

The preparation of future teachers for the use of interactive technologies in professional practice involves focusing on specific philosophical and didactic principles: humanism, anthropological orientation, nature conformity, feedback in educational interaction, pedagogical optimism, scientific organisation of educational dialogue, the communicative orientation of cognition, ethical speaking, modelling problem educational situations. Because "reflective internal conversation remains a focal source and reference point for any deliberation of ... academic in nature" (Rembierz, 2020).

We consider the prospects for future scientific research in studying the application of digital resources and tools for organising interaction in the conditions of distance (mixed) learning in educational institutions of various types.

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