Innovative Training of Future Teachers of Higher Education Institutions in the Conditions of Distance Learning

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Abstract: The study examined the change in the attitude of students and teachers to the system of distance learning of future teachers of higher education institutions after passing the blitz course "Modern distance education". The experiment was conducted in Ukraine - a post-Soviet state, where part-time and part-time education still prevails, and distance learning still remains innovative and is gradually being implemented within the transitional credit transfer system. The article used sociological methods to study the acceptability of innovative forms of learning. In particular, after the participants of the blitz course "Modern Distance Learning" sociologically measured the attitude to innovative areas of distance learning, namely: work with electronic resources, counseling, modeling personal educational trajectory, organization and self-organization of independent forms of work and psychological training (motivation, training in self-regulation techniques, trainings and self-trainings on the practice of independent decision-making and responsibility). Particular attention was paid to diagnosis and self-diagnosis, as well as control and self-control. After a theoretical (sociological) discussion of innovative forms of distance learning, it was found that teachers are interested in innovative methods of work, but prefer a stationary form of educational services; during distance learning, emphasis is placed on consulting forms of work and multifaceted monitoring of competencies. Students, on the other hand, showed a high sensitivity to e-learning, providing maximum academic freedom and self-control. However, the dynamics of a positive attitude to distance innovation had a slight increase in students and moderate - in teachers. At an international level, the scientific novelty of the article involves subjective views of students and university teachers on distance learning in the post-Soviet countries, where until now such learning was implemented only by the top-down approach. Thus, the article can become a theoretical basis for the development of contact educational programs in the humanities for the implementation of innovative methods of distance learning in the studied region.

Keywords: *e-learning, independent work, personal educational trajectory, monitoring and control, reflection.*

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Introduction

Ukraine is a country of "young democracy", which in 2014 chose a pro-European direction of development, including education. However, in the country, as in most post-Soviet republics, the most common form of university education is the part-time lecture-seminar system. This fact significantly hampers the full introduction of distance learning platforms and innovative tools for their use. In light of this, it seems important to develop a general model of distance education for the training of humanities professionals (e.g. teachers), identify its key external and internal resources and test the willingness of teachers and students to work with them. All these aspects should be studied taking into account the latest achievements of world distance didactics and the specifics of the Ukrainian region.

The transition of most public relations, economic relations and private contacts to a remote digital basis cannot leave aside the sphere of educational services. If compulsory secondary education is transferred to distance learning only for important medical reasons (COVID-19, education of persons with disabilities), then higher, essentially voluntary education in Western countries has long been implemented in distance forms, even within inpatient education. Contrasting in this regard are the countries of the post-Soviet space, which are still dominated by full-time and part-time education, and the latter, although it provides elements of distance, is still far from it in the modern sense..

A significant impetus for the implementation of distance learning in Ukraine as a country with classical academic traditions are the following determinants:

a) quarantine regime for the provision of educational services; b) continuous digitalization of educational and other socially significant resources; c) the orientation of young people to learn about the world through virtual reality; d) full observance of democratic rights and freedoms, according to which a person chooses, why, when and in what way to study.

At the pre-experimental (social research) stage, we hypothetically assume that the main expected innovations in distance learning relate to e-resources (e-learning) and personal educational trajectories. These are two factors that are completely congruent with the demands of modern youth. Teachers' attitude to distance innovations seems to be problematic, as the "older generation" teachers are accustomed to offline analog teaching and competence control.

In today's educational space adjusted by the COVID-19 pandemic, distance learning is considered a natural transformation or adaptation of all

other forms, so a number of studies are devoted to the adaptation of various forms of learning, including distance to new destructive educational conditions (Dixon & Kirmes, 2020).

As a result, there is a convergence of concepts, "distance learning", "e-learning", which become synonymous. Forms previously taught by correspondence, distance learning or distance learning are now being combined into a common form of online courses, mainly in socionic professions. In essence, they are e-learning platforms with multifunctional software. One of their prerogatives is the impossibility of mastering without the student's own initiative, which produces a higher level of academic achievement (Lorenz, 2018).

The hypothesis of the study is the following thesis: in the reflection of the subjects of the educational process in higher education, external and internal innovative forms and factors of distance learning may be a priority. External include the use of electronic resources and assistance in building a personal educational trajectory; to internal - motivation and ability to make independent decisions (self-regulation of students) and their observance of the principle of continuity (appropriate sequence of acts of educational behavior and activities). At the same time, a cross-cutting approach to the organization of distance learning is control (on the part of teachers and curators and on the part of students (self-control)). These parameters, within the framework of a sociological experiment, were studied from the point of view of subject reflection before and after the subjects passed the blitz-course "Modern Distance Education".

The purpose of the article is to find out the attitude of the subjects of the educational process to the innovative aspects of distance learning through surveys, focus groups and questionnaires of teachers and students who are at the initial stage of implementation of distance learning.

Literature Review

Modern educational concepts of democratic countries are based on the postmodern crisis of classical education, which causes uncertainty of the ultimate educational goal, significant variability of its content, multimodality of educational needs and personal intentions. This, according to Orenstein and Hunkins (2003), makes "stationary educational models" impossible, stimulates the humanization of all higher education (even technical), its remoteness, personality and cloudiness of technology. The main reason is the uncertainty and variability of postmodern culture (and in terms of values), education and man. Such conditions are extremely favorable for the

creation and implementation of remote e-learning platforms and related courses, which now contain significantly fewer compulsory program competencies and allow for significant segmentation in the acquisition of professionalism. This ultimately correlates with the labor market, which needs not so much universal specialists as specialists who will occupy a narrow and favorite professional niche. At the same time, they should remain "general specialists" in terms of communication and cultural and professional interaction.

Authoritative methodological sources show that within the framework of university education it is possible to preserve and combine the best traditions of classical full-time education and innovative distance education. Actually, these forms organically and synergistically complement each other, and stationary training in its pure form practically does not exist, it is full-time and distance learning. This combination increases the motivation of students with its multimodality (both educational resources and forms of presentation of educational results); makes education accessible and understandable by students' choice of forms of presenting the content of education (lectures, visualizations, diagrams and graphics, multimedia, glossaries, educational and diagnostic programs, etc.); increases academic mobility and individuality (flexibility of time, forms, personal academic style, reporting, etc.). The main thing in this - constant communication, interaction and performance, even if not offline (Bock, 2018).

Thus, the general principles of distance learning have long been developed and implemented in countries with long-standing democratic traditions. Recently, however, the topic of distance learning has become relevant again, as many institutions have switched to full distance learning due to lockdown (Dixon & Kirmes, 2020; Esguerra, 2020).

In this regard, we will focus the literature on studies of relevant components of distance learning, which were subjected to sociological study in the experiment (motivation and ability to make independent decisions, students' adherence to the principle of continuity, use of electronic resources and construction of personal educational trajectory).

Thus, Caruso and Brown (2017) on the example of learning foreign languages, proposed a unique method of continuity using the already existing native linguistic and cultural potential. It provides a basis and similar mechanisms for learning new cultures and languages, full of common universals. Based on this approach, framework proposals have already been proposed for higher education institutions (Caruso & Brown, 2017).

According to most researchers, students' self-adherence to distance or online courses is motivated. The latter is a component of almost all aspects of distance educational loyalty of the student (planning, decision-making and choice, independent work, determining their own educational and life intentions). Thus, Yu and Geng (2020) identified two groups of motivational categories (autonomous and controlled), which have more than a dozen components and are ideally represented by permanent motivation to study in the institution and throughout life. Scientists point out that the practical formation of the need for consistency faces the problem of self-regulation, free choice of disciplines in the presence of obligatory, and most importantly - how to reconcile the principle of continuity with the individual approach and self-regulated student behavior.

Zlatea and Gucci (2016) studied motivation and performance in higher education and concluded that within the personal educational trajectory the macro-category is "self", which combines self-presentation, self-learning, self-regulation, etc.

As for motivation, educators and psychologists have long believed that it is based on will. However, recent neuroscientific research has proven the importance of the emotional component in human education and activities. It turned out that emotions affect memory, attention, educational outcomes. This discovery suggests the importance of creating both a positive educational environment and an emotionally colored personal educational trajectory.

Psychological and pedagogical specifics of independent work during distance learning depends on the desire and ability to make independent decisions, make choices and solve unpredictable problems that arise. Here it is necessary to form an adequate attitude to oneself and the world, to monitor the expenditure of time (planning), to be able to take responsibility. Most of these characteristics are also related to emotional and volitional qualities and are currently being studied interdisciplinary within the category of subjectivity (Kahneman & Tversky, 2000).

The concepts of academic self-efficacy, adherence to personal educational trajectories within the educational space, feed on external (electronic, didactic, managerial, controlling) and internal resources (motivation, positive emotions, personal intention, various types of rewards, cognitive interest) (Castañeda et al., 2017; Sachitra & Bandara, 2017).

The basis for modern distance learning is e-learning, which is currently devoted to a lot of theoretical and methodological research.

Materials and methods

As part of the planned study, it was decided to focus not on the didactic effectiveness of distance learning, but on the study of reflection (attitude) of students and teachers to the innovative intentions of distance learning. Accordingly, research methods were chosen, based on sociological and the method of framework teaching of modern aspects of distance learning. This model, together with the subjective attitude to distance learning, became the main object of reflection.

Data collection for analysis was carried out from scientific and theoretical to personal and psychological. Respondents listened to prepared theoretical materials and presentations of a framework model of distance learning for universities where the practice of distance learning was not used or was used in fragments. Data from the sociological collection (questionnaires, the results of focus discussions with the fixation of associations, keywords and ideas) were subjected to theoretical and quantitative analysis.

Specific research methods were the generalization of the main intentions of modern distance learning, framework teaching (blitz course) and experimental sociological methods - sociological surveys, questionnaires, recording the results of focus group discussions, qualitative and mathematical methods of data processing.

Such data were selected under the compliance monitoring principle. It lies in comparing the previously theoretically separated epistemological and semantic dominants of distance learning with those recorded during the sociological stage.

Specific relevant data under comparison were selected using the methods of Merriam (1998) and Stake (1995). According to them, relevant points and qualitative extremes of discussion, along with associations, keywords and ideas (recorded by audiovisual means) were extracted from a continuous discourse (Merriam, 1998; Stake, 1995). Subsequently, quantitative research methods were applied to such words, syntagms, and expressions.

The authors of the article adapted the above-mentioned methods to specific conditions of the experiment. The latter was discrete in nature since it was conducted at different times and in different educational institutions. After that, the obtained data were combined and analyzed as relatively isomorphic and equally reliable.

The author's methodology of working with the obtained (subjective) data sought to assess the acceptability/unacceptability of all aspects and components of distance learning. It became possible by dividing the obtained data (ideas, epistemes, statements/objections and connotatively

marked evaluative lexemes and associations) under the “accept – do not accept” criterion. Based on this, generalizations were made about students’ and teachers’ readiness for various aspects and components of distance learning today. These cover such key categories as academism, professional focus, flexibility, versatility, freedom, digital nature, autonomy, monitoring (see Results).

The study of the subjective acceptability of innovative aspects of training of future teachers of higher education in distance learning took place during the 2019-2020 academic year at the premises of such higher education institutions as National Academy of the National Guard of Ukraine, Zaporizhzhia National University named after Meniailo, Pereiaslav-Khmelnitskyi State Pedagogical University named after Hryhoriy Skovoroda.

A specific circumstance is the fact that these universities through quarantine (COVID-19) twice switched to full distance learning, which was not previously practiced according to their charter. Given such a small and in fact experimental experience, the author of the article decided to: a) on the basis of international didactic experience and Ukrainian educational realities to model the framework principles and forms of distance learning according to innovative trends; b) develop information explicit about the model materials in the form of presentations; c) to acquaint teachers and students with these materials in the form of a blitz course; d) organize questionnaires and focus groups to discuss the attitude of educational entities of selected universities to innovative forms of distance education (based on the information received by them and short-term practical experience of distance learning).

The criteria for selecting respondents formed a continuous sample, with academic groups selected randomly at each university. Regarding ethical issues, the respondents first gave their informed consent to participate in the study (they were entitled to withdraw without any other consequences for their status). Second, the experiment was approved by the ethics committees of each university. The social research was conducted on the basis of 4 academic groups (one group from each university, a total of 102 students) with the participation of 2nd and 3rd year undergraduate students, as well as with the participation of 36 teachers. Focus discussions and discussions within it took place together with all subjects of the educational process.

Confirmation of experimental data is demonstrated by concrete results of changing the attitude of respondents to innovative trends in distance learning, namely - to the principle of continuity with personal educational trajectory, to electronic resources, motivation and ability to make

independent decisions and monitoring and control (self-control). These results were recorded at the beginning of the experiment (before listening to the blitz course "Modern Distance Education" and before the social experiment to discuss it) and after. The results are given in Table. 1.

The data obtained after listening to the blitz course and during the focus discussion and discussion were recorded by audio recording and processed using the web program Textalyzer (n./d.). After that, the initial positive responses of the questionnaires before the experiment and the positive responses of the questionnaires and blitz discussions after the experiment were calculated. Verified results are presented in the Results section.

Results

Already at the stage of the analysis of relevant literature and the development of a blitz-course, it became clear that the innovative training of future teachers of higher educational institutions in the context of distance learning comes down to self-study using electronic educational resources and a reasonable advisory and monitoring function of the teacher. At the same time, the main resource is the subjectivity of the student, in the modern Postmodern and neuropedagogical understanding, it consists in the definition, formation and observance of a certain life (and, accordingly, educational) personally significant intention. At the same time, independent educational activities, self-control, making appropriate decisions and choices must be supported by intrinsic motivation. The latter is based on the reinforcement of positive emotions (hedonism, pleasure) from cognition, encouragement, interactive communication, networking and other interests inherent in youth.

As a result of studying modern trends in distance learning and taking into account other promising types of educational services, the structure of modern distance learning was modeled and presented as a diagram (from a didactic point of view, Fig. 1), which formed the basis of the blitz course "Modern Distance Learning". After the informative part, students of experimental groups and teachers chose priority types of learning (left column) and as a result of discussion in focus groups identified with teachers positive aspects and shortcomings, which was summarized by moderators in the form of words-associations, epithets, concepts.

Fig. 1. *The structure of modern distance learning from a didactic point of view*

Source: Authors' own conception

The results of the experiment also showed that modeling the innovative training of future teachers of higher educational institutions in the context of distance learning using electronic educational resources and stimulating the independent educational activity of students can be effective and relevant technology from the point of view of subjects of educational activity. However, obviously, such an intermediate conclusion applies only to the countries of the post-Soviet region and is irrelevant for use in countries with a long tradition of distance education.

Also after the sociological study of hypothetically key areas of innovative transformation of distance education, there was a divergence in the views and approaches of students and teachers. Thus, students strengthened the acceptability of views on distance learning in such categories as flexibility, universality, freedom, electronics and noted as negative factors control, systemic, independent work. Teachers showed some opposite tendency, giving preference to the following aspects: academic, professional orientation, independence, control and recognized diffusion, personal choice and freedom as negative. This indicates so far cognitive inconsistency and entropy in the understanding of the holistic remote process. Teachers try to maintain control and a certain didactic line, which are fully present in stationary forms of learning. Students see distance learning as an opportunity for more freedom and less responsibility.

However, we note the dynamics of a positive attitude to all aspects, which differs quantitatively in teachers and students and depending on the aspect.

Below are the results of the final part of the experiment on innovative aspects of distance learning:

Table 2. *Formation of readiness to apply innovative aspects of distance learning.*
Source: Authors' own conception

Formation of readiness for distance learning	Levels of formation (%)					
	Students			Teachers		
	At the beginning of the experiment	At the end of the experiment	Deviation	At the beginning of the experiment	At the end of the experiment	Deviation
The principle of continuity and personal educational trajectory						
High	15	21	+7	24	42	+18
Medium	55	56	+1	50	44	- 6
Low	30	23	- 7	26	14	- 12
Electronic resources						
High	25	33	+ 8	20	35	+ 15
Medium	53	52	-1	59	51	- 8
Low	22	15	- 7	21	24	-3
Motivation and ability to make independent decisions						
High	16	21	+ 5	32	42	+ 10
Medium	40	60	+ 20	36	45	+ 9
Low	44	19	- 21	32	15	- 17
Monitoring and control						
High	14	16	+2	54	67	+ 13
Medium	44	50	+6	24	25	+ 1
Low	52	34	- 18	22	8	- 14

These tables show a low (average 22%) willingness of students to work according to modern standards of distance learning and moderate (44%) even after a blitz course and a sociological experiment. What speaks about stability of stereotypes concerning training both at students, and at teachers of educational institutions of a pedagogical profile.

Discussion

The main value of the article in the field of international education is as follows: for the first time, subjective data were used to determine the priorities of today's distance learning in the post-Soviet countries (in particular, in Ukraine). This corresponds to a post-secular approach towards education, in which the subject and his or her life trajectory have equal value with general didactic guidelines modelled "from top to down". The obtained results also correlate with current provisions on certain aspects of distance learning, presented below.

Thus, in the process of sociological research of innovative components of distance learning, the acceptability and subjective effectiveness of different types of monitoring, which are provided in the research of modern scientists, was proved. In particular, the highest rating was given to the possibility of using software and smart technologies in evaluation, self-evaluation and mutual evaluation. Such technologies are used both independently and by teachers (curators) (Negoescu & Boștină-Bratu, 2016).

The aspect of gradualness (continuity), step-by-step self-control turned out to be the most problematic in the self-regulatory sense, but external directive forms of control (modular, exams, project presentation) are considered effective, which corresponds to the Mertens concept (2009).

The paper identifies the prospects for creating open educational platforms, electronic resources for education and self-education, which gained popularity in Western Europe in the 90s (Lorenz, 2018).

Goyal (2017) proposes to evaluate didactic achievements within a specially organized educational environment, which in the distance sense is quite diffuse and uncertain, so it requires academic flexibility and subjective motivation, as demonstrated by teacher questionnaires. Instead, students are not ready to use smart technologies and interactive tools for mutual evaluation (Bock, 2018), except for mutual evaluation of creative projects and self-presentations. The last students are interested not so much in the academic as in the creative moment.

Although the German expert Wache (2003) argued for the effectiveness of e-distance learning for the humanities, he also pointed out the shortcomings associated with remoteness and some indirect control. The article confirmed both aspects, and among the shortcomings are both objective (impossibility of constant ongoing control and monitoring of educational activities) and subjective (a large number of students "invent" ways to falsify academic records, too differentiates educational material, goes

to planning educational activities towards their own, not program prerogatives).

"Distance learning = e-learning". This thesis has long been argued by leading methodologists in humanities education and should be fully implemented in post-Soviet republics with traditionally analogous teaching methods (Ahmadi, 2018). It is proved that cloud technologies (despite certain limitations) have significant educational and development potential, which most impresses young people. It includes, first of all, the motivation of virtual reality, which is usually popular with students, but, unfortunately, in terms of entertainment. Second, electronic resources not only contain all possible analog types of educational materials, but also "bring the educational process closer to modern information and communication realities" (Îlter, 2015).

The article proves the importance of the phenomenon of professional subject reflection, which allows for preliminary modeling to predict the effectiveness of innovative training of future teachers of higher education in terms of distance learning. Because distance learning is based on students' self-management, all types of reflection and feedback have been used in its modeling, which is a resource of professionalization in the innovative multimedia and multicultural space (Kazlauskiene & Barabanova, 2020).

It is argued that innovative aspects of distance learning in the post-Soviet space are interspersed with atavistic elements of analog learning and excessive directiveness on the part of teachers. They currently need to be transformed to minimize external management. This shifts the main responsibility to motivated and self-regulating students, mobilizes their subjective neuropsychological potential, as it "forces each time to make choices and make non-standard decisions in uncertain operating conditions" (Kahneman & Tversky, 2000).

The fact of lack of sufficient culture of self-education is objectified (Gerasymova et al., 2019; Maksymchuk, Gurevych et al., 2020; Maksymchuk, Matviichuk et al., 2020; Melnyk et al., 2019; Nerubasska & Maksymchuk, 2020; Nerubasska et al., 2020; Onishchuk et al., 2020; Palamarchuk et al., 2020; Sheremet et al., 2019) in Ukraine and it is recommended to increase it by strengthening the neuropsychological and pedagogical mechanisms of motivation (bright emotionality, benefit and satisfaction from the results obtained by their own efforts); by modeling new techniques and culture of independent educational activities.

The results of a sociological study of the acceptability of innovative components of distance learning confirmed the validity of the construction

of personal educational trajectories within the appropriate educational and non-educational environments (Personal learning environment). This confirms the opinion of a number of scholars on the uncertain and dynamic educational space and the subjective upward dynamics in it (Donaghue, 2015; Lee, 2015).

Conclusions

As a result of the implementation of the blitz course "Modern Distance Learning" among students and teachers, it was found that the pedagogical universities of Ukraine as a post-totalitarian country can not currently overcome the stereotype of in-service learning and policy forms of educational management. At the same time, students are more focused on the introduction of innovation and distance learning, although guided by pragmatic and hedonistic attitudes (detachment from place and time, the presence of academic freedom). As a percentage, teachers showed greater dynamism in the readiness to implement key innovations in distance learning, namely: the principle of continuity and personal educational trajectory, electronic resources, motivation and ability to make independent decisions, monitoring and control. Among students, e-learning was the highest priority, and control was the lowest priority.

The article outlines the prospects to propose for the first time in the post-Soviet space to apply the deadline, personal adequacy and self-esteem, personal uncertainty of the subject at a particular time and the certainty of his educational intentions as psychological resources for innovative approaches in distance learning. has ancient traditions and is an additional form of education). The article can serve for further modeling of distance education for countries with transitional credit transfer system.

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