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de Formação na Docência

6th International Conference
on Teacher Education

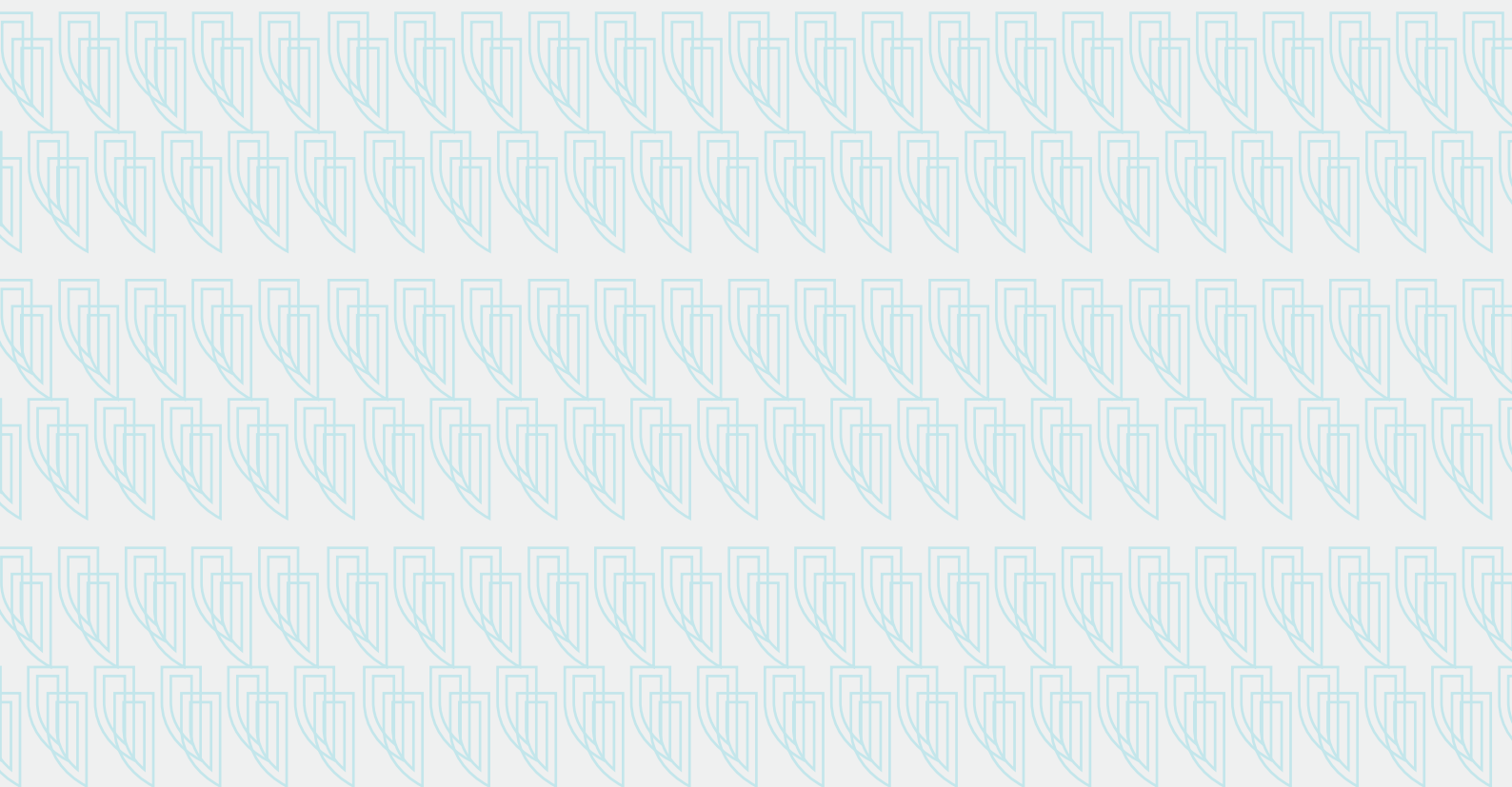


INCERTEZAS E DESAFIOS
NA INVESTIGAÇÃO
EM EDUCAÇÃO

UNCERTAINTIES AND CHALLENGES
IN EDUCATIONAL RESEARCH



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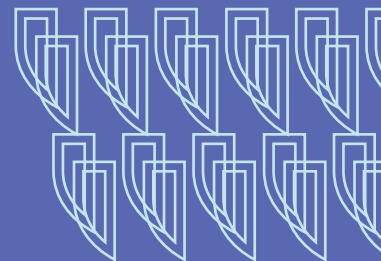
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INCTE'22

É indiscutível que a situação pandémica, numa inusitada cobertura mundial, condicionou, condiciona e condicionará múltiplas dimensões das nossas vidas nos tempos (mais ou menos) próximos. Esta situação tem exigido esforços redobrados a todos os setores da sociedade para enfrentar circunstâncias ainda mais incertas, complexas e, certamente, desafiantes.

O INCTE, Encontro Internacional de Formação na Docência, tem vindo a mobilizar a comunidade científica e profissional para dar respostas adequadas aos sucessivos desafios a ultrapassar. Por isso, cá estamos de novo (de forma presencial ou de forma virtual) para retomar as nossas partilhas, discussões e reflexões, seguramente necessárias e importantes nestes momentos tão exigentes.

O INCTE'22, já na sua 6.ª edição, como Encontro com afirmação nacional e internacional, está empenhado, mais uma vez, na prossecução dos seus principais objetivos:

- Problematizar, no quadro do processo de Bolonha, as estruturas curriculares da formação de educadores e professores;
- Debater propostas didáticas inovadoras no âmbito da formação para a docência;
- Refletir sobre as práticas formativas nos diversos contextos;
- Analisar o contributo da formação na dinamização das instituições;
- Aprofundar a comunicação entre os diferentes intervenientes na formação numa perspetiva de educação para o desenvolvimento;
- Debater práticas de formação no ensino superior.

Além disso, o INCTE continua a centrar a edição deste ano na temática da investigação em educação, no sentido de realçar o papel do educador ou professor investigador nas suas vertentes praxiológica e epistemológica. Reafirmamos, assim, que o INCTE'22, subordinado ao tema Incertezas e desafios na investigação em educação, incorpora uma visão de investigação em educação multidimensional, multimetódica e plurivocal, numa perspetiva de compromisso e responsabilidade compartilhada de todos, investigadores educacionais, educadores e professores. Sintam-se muito bem-vindos em Bragança, presencial ou virtualmente.

A Comissão Organizadora do INCTE'22.



INCTE'22

It is unquestionable that the pandemic situation, in an unusual worldwide coverage, has conditioned, conditions and will condition multiple dimensions of our lives in the (more or less) near future. This situation has demanded redoubled efforts from all sectors of society to face even more uncertain, complex and, certainly, challenging circumstances.

INCTE, International Conference on Teacher Education, has been mobilising the scientific and professional community to give adequate answers to the succeeding challenges to be overcome. So, here we are again (in person or virtually) to recommence our shares, discussions and reflections, surely necessary and important in these demanding times.

INCTE'22, already in its 6th edition, as an already renowned Conference, is committed, once again, in the pursuit of its main objectives:

- To problematise, in the framework of the Bologna process, the curricular structures of the training of educators and teachers;
- To debate innovative didactic proposals in the context of training for teaching;
- Reflect on training practices in different contexts;
- Analyse the contribution of training in invigorating institutions;
- To deepen the communication between the different actors in training in a perspective of education for development;
- Discuss training practices in higher education.

Moreover, INCTE continues to focus this year's edition on the theme of research in education, to highlight the role of the educator or teacher-researcher in its praxeological and epistemological aspects. Thus, we reiterate that INCTE'22, under the theme "Uncertainties and challenges in educational research", incorporates a multidimensional, multimethodological and plurivocal vision of educational research, under the banner of commitment and shared responsibility of all, educational researchers, educators and teachers. You are very welcome in Bragança, in person or virtually.

The Organising Committee of INCTE'22.



Objetivos e Eixos Temáticos

O INCTE'22, VI Encontro Internacional Formação na Docência, apresenta os seguintes objetivos:

- # Problematizar, no quadro do processo de Bolonha, as estruturas curriculares da formação de educadores e professores;
- # Debater propostas didáticas inovadoras no âmbito da formação para a docência;
- # Refletir sobre as práticas formativas nos diversos contextos;
- # Analisar o contributo da formação na dinamização das instituições;
- # Aprofundar a comunicação entre os diferentes intervenientes na formação numa perspetiva de educação para o desenvolvimento;
- # Debater práticas de formação no ensino superior.

O Encontro está estruturado em cinco grandes eixos temáticos:

Eixo Temático 1

Currículo e formação de educadores e professores

Este eixo temático integra as questões do currículo, da inovação curricular e as novas perspetivas curriculares, no âmbito da formação inicial ou continuada de educadores e professores, incluindo a discussão de modelos e processos curriculares de diferente natureza e de trabalhos ou propostas de formação de educadores e professores, nos diversos contextos.

Eixo Temático 2

Didática e formação de educadores e professores

Este eixo temático integra aspetos dos diferentes saberes disciplinares em contexto escolar abrangendo a reflexão sobre os contributos da didática na formação de educadores e professores para uma construção progressiva de formas de compreender e agir conscientemente em situações educativas.

Eixo Temático 3

Práticas educativas e supervisão pedagógica

Este eixo temático integra o desenvolvimento de práticas de formação de educadores e professores nas escolas, compreendendo a problematização dos papéis a desempenhar pelos diversos intervenientes, numa perspetiva de trabalho colaborativo e da construção de uma identidade profissional consciente, empenhada e responsável.

Eixo Temático 4

Formação docente e educação para o desenvolvimento

Este eixo temático integra aspetos formativos do ensino e da aprendizagem relacionados com a promoção de uma cidadania global responsável, abrangendo a discussão de projetos e práticas educativas potenciadoras de uma educação para o desenvolvimento.

Eixo Temático 5

Práticas pedagógicas no ensino superior

Este eixo temático integra as questões relacionadas com os desafios pedagógicos que enfrenta o ensino superior na atualidade, abrangendo a discussão, partilha e disseminação de experiências pedagógicas vividas neste nível de ensino.



Objectives and Research Topics

NCTE'22, 6th International Conference on Teacher Education, focuses on the following objectives:

- # To discuss, within the framework of the Bologna process, the curriculum structures of educators and teachers training;
- # To discuss innovative didactical proposals within the framework of training for teaching;
- # To reflect on training practices in different contexts;
- # To analyze the contribution of training in the dynamization of the institutions;
- # To gather a deep insight about the communication between the various actors in training in a perspective of education for development;
- # To discuss educational practices in higher education.

The Conference covers five main research topics:

Research Topic 1

Curriculum and training of educators and teachers

This research topic integrates issues of curriculum, curricular innovation and new curricular perspective, in the context of the initial or continuous training of educators and teachers, including the discussion of curriculum models and processes of different nature and of works or proposals for the training of educators and teachers, in different contexts.

Research Topic 2

Teaching and training of educators and teachers

This research topic integrates aspects of different disciplinary knowledge in school context, covering the reflection on the contributions of teaching in the training of educators and teachers for a gradual construction of ways to understand and act consciously in educational situations.

Research Topic 3

Educational practices and pedagogical supervision

This research topic integrates the development of training practices of educators and teachers in schools, comprising the problematization of the roles to be played by the various actors, in a perspective of collaborative work and the construction of a mindful, committed and responsible professional identity.

Research Topic 4

Teacher education and development education

This research topic integrates formative aspects of teaching and learning related to the promotion of a responsible global citizenship, including the discussion of possible projects and educational practices of education for development.

Research Topic 5

Pedagogical practices in higher education

This research topic integrates issues pertaining to the pedagogical challenges that higher education currently faces, comprising discussion, sharing and dissemination of pedagogical experiences undertaken at this level of education.



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The electronic textbook “pedagogy” in the formation of digital competencies of teachers

O livro eletrônico "Pedagogia" na formação de competências digitais dos professores

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Abstract

The article reveals the possibilities, goals, objectives, main advantages and features of using the electronic textbook "Pedagogy" in order to form digital creative competencies of future teachers in distance education in the Republic of Kazakhstan. The content and structural components of the electronic textbook "Pedagogy" in the formation of digital creative competencies of future teachers are disclosed: theory; knowledge-power; heritage of scientists; glossary; photo gallery; literature. The blog "Theory" is supplemented with such materials as a test, a blitz tour, a video tutorial, a crossword puzzle, a pedagogical situation, a creative task. The peculiarity of the electronic textbook is that the theoretical part is supplemented with interesting materials that promote creative thinking of future teachers. The research within the framework of the grant project AP09259497 "Improving the system of pedagogical education in the new reality of Kazakhstan: technological and methodological aspects of the formation of digital competencies of future teachers in distance learning of the Republic of Kazakhstan" is funded by the Ministry of Education and Science of the Republic of Kazakhstan.

Keywords: distance learning, digital competence, future teacher, electronic textbook, main menu.

Resumo

O artigo revela as possibilidades, metas, objetivos, principais vantagens e características do uso do livro eletrônico "Pedagogia", a fim de formar competências criativas digitais de futuros professores em educação a distância na República do Cazaquistão. O conteúdo e os componentes estruturais do livro eletrônico "Pedagogia" na formação de competências criativas digitais de futuros professores são divulgados: teoria; conhecimento-poder; patrimônio dos cientistas; glossário; galeria de fotos; literatura. O blog "Theory" é complementado com materiais como teste, blitz tour, vídeo tutorial, palavras cruzadas, situação pedagógica, tarefa criativa. A peculiaridade do livro eletrônico reside na parte teórica que é complementada com materiais interessantes que promovem o pensamento criativo, e pesquisa para futuros professores. A pesquisa no âmbito do projeto AP09259497 "Melhorar o sistema de educação pedagógica na nova realidade do Cazaquistão: aspectos tecnológicos e metodológicos da formação de competências digitais de futuros professores no ensino à distância da República do Cazaquistão" é financiada pelo Ministério da Educação e Ciência da República do Cazaquistão.

Palavras-chave: ensino a distância, competência digital, futuro professor, livro eletrônico, menu principal.

1. The importance of creating a digital educational environment in the formation of digital competencies of the future teacher

The Higher School of Kazakhstan should strive to reach the world level of education and enter the unified educational space. It is important to take a new approach to the issue of training creative teachers in higher pedagogical educational institutions that possess innovative knowledge and technologies, have formed information and communication competence, have a high level of professional and pedagogical qualifications, creative thinking, are spiritually developed, and capable of implementing innovative processes in the field of Education.

In the state program for the development of education and science of the Republic of Kazakhstan for 2020-2025 (2021), where we can read the following: "To improve pedagogical education, profiling of higher educational institutions and colleges that train personnel in pedagogical specialties will be carried out. To do this, the qualification requirements for higher educational institutions that train teachers will be strengthened," the importance of the formation of digital competencies of future teachers in the conditions of digital Kazakhstan is emphasized.

Communicative competence of the future teacher is characterized by professionally significant integrative qualitative indicators: emotional stability, the ability to listen to the end, to show politeness, language skills, etc., and digital competence is distinguished by the ability of the future teacher to search, collect, sort, process, and work effectively with new digital information.

Some authors (Berdenkulova and Shuken, 2018) indicate that the creation of digital educational resources is defined as one of the main aspects of computerised informatization of all forms and levels of Education. Digital educational resources are an important component of all areas of activity of a modern teacher, contributing to the optimization and integration of educational and extracurricular activities. The trend of the modern stage of digitalization of education is represented by electronic textbooks, encyclopaedias, training programs, means of automatic control of students' knowledge, simulators, web quests, computer business games, multimedia presentations, virtual laboratories, etc. (p. 243).

On the other hand, some authors (Balykbaeva and Narenova, 2020) consider that the use of digital educational resources in the educational process of pedagogical universities i.e. lecture courses for students with multimedia support, electronic textbooks, video lectures, virtual laboratories, computer business games, web quests, etc. complexes of control and self-control tests, tools for improving students' knowledge taking into account the identified and justified pedagogical conditions for using digital educational resources, allowed students to move individually from one level of mastering educational material to another at the highest pace; contributed to the formation of stable learning motivation, stimulating independent search and creative activity, and the launch of mechanisms for self-education and self-organization (p.88).

The problem of the quality of education is one of the priority problems in modern educational science and politics, it relates to the solution of a set of tasks aimed at the development of the individual, preparing him/her for life in rapidly changing conditions, the development of the individual with high moral aspirations and high motivation for professional work.

Digital educational resources are a set of data in digital form: information sources containing graphics, text, speech, music, video, photo, and other information used for use in the educational process and aimed at implementing the goals and objectives of modern education.

The digital educational environment implies the openness of information systems designed to provide various tasks of the educational process. The fundamental principle of creating a digital educational environment is the principle of transparency, which implies the possibility for each consumer of educational services to use information systems that are part of digital educational resources, replace them, or add new components.

The researcher T.V. Meng (2008) indicate the following principles of creating a digital educational environment:

- the principle of unity of digital educational resources, which is the essence of the use of digital technologies in a single educational and technical logic that allows you to solve certain tasks; the principle of accessibility based on the inclusion of unlimited functionality of commercial and non-commercial elements of digital educational resources for a particular student through the internet;
- the principle of competition, which consists in ensuring the freedom to fully or partially replace the digital educational environment with competing technologies.
- the principle of ensuring the right, duties, and opportunities for each subject of education to solve informatization tasks within the framework of their responsibility;
- the principle of sufficiency, which consists in ensuring that the content of the information system meets the goals, power, and capabilities of the consumer of educational services;
- the principle of profitability, which consists in creating new opportunities and reducing the user's labor costs through the introduction of digital educational resources (p. 38).

The purpose of creating a digital education system is to individualize the student using adaptive learning, testing, and navigation in the educational process, and to expand his / her capabilities from model accounting, to form interaction with the student to adapt the educational material in accordance with the needs of the educational material.

1.1 Digitalization of the education system

Along the same lines, the national project "Educated nation, quality education" (2021) indicates that it attaches special importance to quality education and increasing the competitiveness of Kazakhstani universities. In fact, this project highlights quality in education as one of its main goals: "3-national priority. Quality education: ensuring accessibility and equality in the field of education; creating favorable conditions and an environment for learning; improving the quality of education; improving the efficiency of management and financing of education; developing human capital for the digital economy (p.2).

In order to ensure the quality of pedagogical education in modern conditions, the pedagogical foundations of using digital educational resources in the educational process of universities are considered.

In accordance with the order of the Minister of Education and Science of the Republic of Kazakhstan dated April 13, 2020 No. 141 (2020) "On approval of the rules for organizing the educational process on distance educational technologies" – these are didactic materials on the academic discipline and / or module that provide interactive training: photos, video fragments, statistical and dynamic models, objects of virtual reality and interactive modeling, sound recordings and other digital educational materials (p. 3).

Taking into account that any learning technology is information technology, it is necessary to transfer knowledge in the learning process at a high level, developing the creative activity of a gifted child, and the transition to a new information technology. The new information technology in the process of teaching information and communication technology is the system of education of educational materials, digital technologies for teaching, the activities of digital technologies in the educational process, the work of teachers and methods of their use in improving students' knowledge.

The achievements of digital technology allow us to obtain educational information at all levels, process it, and work on improving and developing traditional teaching methods in education. Digital technologies are of great importance for the disclosure, development of potential and activity of the

individual for creative activity, high - quality assimilation of knowledge, processing of educational results, and automation of the learning process.

The process of developing cognitive and creative activity using digital technologies is divided into: the consciousness of the individual, formed by his/her activity; as a result of his/her activity, the individual is formed; his formed qualities are a means of regulating the work of the individual.

With digital technology, a student is often able to engage in creative activities and perform effective cognitive activities on their own. Therefore, in such a system of education, a gifted child is not an indifferent receptionist, but an active developer of his knowledge.

The opinion of many experts in the field of Education suggests that the essence of education should be the development of creativity, critical thinking, communication and cooperation; the relevance of knowledge, understanding and the ability to use the potential of new technologies, and, last but not least, the development of personal qualities that contribute to self-realization and parallel work for the sustainable development of humanity.

From this point of view, the model of "four-dimensional formation" proposed by Ch. Feidel et al. (2016) specifies that the main feature of the "four-dimensional education" model is not the presentation of another standard list in which people should learn, but the creation of a certain space, i.e. in which educators, education program specialists, methodologists and learners themselves can decide what they need to learn for their future (p. 22).

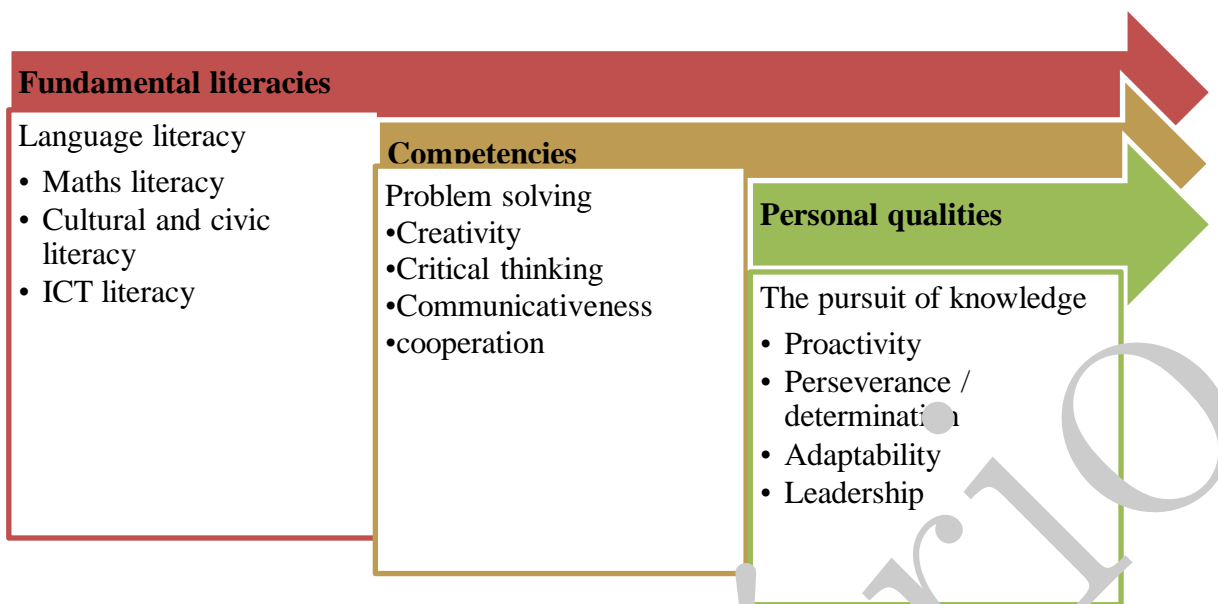
It can be noted that the 21st century skills defined by the "Four Dimensional of Education model" are interconnected: fundamental literacy, competencies, and personal qualities (Fig.1).

At the present stage, there is a transition from industrial society to all social spheres, including the education system, through the process of society digitalization. Global social changes have created the need for traditional (reproductive) innovative changes in the education paradigm, in which information is the main unit and conceptual category.

There are also those (Salgaraeva and Alan, 2020) who agree that the informatization of education has led to the widespread use of computer and other innovative information technologies in education, as the implementation of the objective of the project "educational environment" requires the use of innovative pedagogical technologies based on the use of computer tools, Internet resources, software (p. 156).

Along the same lines, K. Buzanenkova (2017) indicates that in the context of informatization of the learning process, the computer as a learning tool has the following functions:

- 1) Learning-working of the future teacher with the computer;
- 2) Adaptation-adaptation of the computer program depending on the individual characteristics of the user;
- 3) Didactical interview- the interaction of the future teacher with the computer;
- 4) Management-correction made by a teacher at any time; guidance, management by a teacher;
- 5) Didactic management-efficient combination of individual and group work;
- 6) Psychological management-creation of favourable conditions for the future teacher's work with computers;
- 7) Assessment-determination of the future teacher's educational attainment (p. 62).

Figure 1: 21st century skills

1.2 Developing the digital competencies of the future teachers

Scientific and technological progress – achievements of digital technology require wide application of technologically new methods in the sphere of education

On this subject, K. Buzaubakova (2018) refer that digital competence of future teachers is expressed in creative thinking of a future teacher, methodological reflection, striving for novelty, systematic use of digital technologies in their practice, ability to manage the educational process rationally, constant search for the improvement of the educational process, etc. (p. 78).

It is also important to consider that “Competence is the ability to carry out a specific, vital activity and qualification characteristic of an individual, competence development determines the transformation of a resource into a product, it is evident that in any activity there are two aspects- resource and productive” (G. R. Lomakin, 2012, p. 276).

Competence development becomes a topical issue in the field of education. Every day a lot of information flows to a person. And the learning content and teaching methods remain the same more and more often. Therefore, the contradiction between the social need for education and the satisfaction of this need leads to a crisis in the sphere of education. Therefore, there is a necessity to organize the development of methodological creativity of education managers in the system of professional development during the sequence of their professional competences.

Some authors like Zhumabekova and Alkozhaeva (2020), indicate that for successful self-realization in modern conditions, future specialists should possess the following set of key competences: technological competence, readiness for self-education (lifelong learning), information competence, social competence, communicative competence (p. 154).

The use of competency-based approach in the development of digital educational resources allows the creation of structured and result-oriented training documentation, training materials and educational process in secondary vocational education institutions. At the same time, individualization of training can be ensured through comprehensive use of computer-based test control procedures, which provide dynamic identification of the level of students' training. However, no works have been developed in this area concerning the development of comprehensive techniques and samples to analyze the effectiveness of test control procedures. The use of digital adaptation techniques in training systems is essential in situations where trainees are served different individual goals, motivation, level of knowledge and experience.

Some authors as Andreeva G.N., Badalyants S.V., Bogatyreva T.G., Borodai V.A., Dudkina O.V., Zubarev A.E., Kazmina L.N., Mi-nasyan L.A., Mironov L.V., Strizhov S.A., Sher M.L. (2018) in their work indicate that the scope of such educational technology is wider than in the conventional educational system. A textbook in a digital education system can be used by a larger community of learners than a simple teaching application (p. 56).

The pedagogical technologies used in the digital learning environment include "independent learning". According to I. V. Naletova (2015), "the student explains the process of learning in which he or she decides on the need for education, identifies the sources of human and material knowledge, chooses and implements educational directions, and evaluates the acquired knowledge" (p. 91).

The researcher Espenbetova (2019) emphasizes that the first pedagogical condition aimed at improving the quality of students' knowledge is for teachers and students to master the skills and abilities to work with large and constantly changing amounts of information. This condition implies that teachers and students have the ability to intelligently formulate their information needs and requests, rationally select quality information from the mass of data, create information products and provide services in their future activities based on the available digital educational resources (p. 205).

The effectiveness of professional-pedagogical activity requires the qualifications, skills and competencies of the future teacher. Qualifications are, in general, the individual capabilities of a specialist, his knowledge and experience, thanks to which he achieves his goal. And competence is the qualification that is manifested in practice, the ability, skill that can fully use all the internal and external capabilities of the future teacher and achieve a successful result; the ability of the future teacher as a specialist to improve his knowledge, professional skills, culture, and adapt to modern requirements.

Media education, information, and telecommunication media, as well as information and communication technologies occupy a special place in the formation of future teachers' digital competencies. Hence, digital technologies enable the development of digital competencies of future teachers.

2 Using an e-textbook to develop the digital competencies of a future teacher

The use of digital technologies and electronic textbooks in the educational process of the university will help the future teacher to improve his/her knowledge independently, as well as contribute to the formation of his/her creativity, allowing a fuller and deeper assimilation of the material.

In the preparatory stage of using an electronic textbook in the teaching/educational process:

• a system of diagnostics of the knowledge, skills and abilities acquired by the future educator is provided;

- collect training and information, and create an innovative information bank that will help to fully reveal the meaning of the chosen topic to the future teacher.

In the main stage of using the electronic textbook:

- the teacher is able to capture their material on a screen display;
- the teacher is able to provide feedback to the students: advise and monitor the future teacher according to their level of knowledge;
- the lesson opens up the possibility of controlling all the activities of the future teacher; there is an opportunity for self-monitoring of student knowledge.

In the final stage of the use of electronic textbook in the educational process, it is important:

- to open up the possibility of timely identifying and fixing gaps and shortcomings in the future teacher's activity;

- to discover the cause of the deficiencies in the future teacher's activity and to analyze the learning activity as a whole;
- to identify the cause of deficiencies in the educator's learning activity and to analyze the learning activity as a whole;
- to provide a full opportunity to identify measures to prevent and avoid deficiencies in the educator's learning activity of a future teacher.

The professional competence of a future teacher is characterized by his/her professional and individual qualities. The professional competence of a future teacher is a unity of his/her theoretical and practical training, achieving high results for the implementation of pedagogical activity.

Electronic textbooks play a special role in shaping the information and communication competences of future teachers in higher education institutions that train pedagogical staff.

It is also important to consider that the electronic textbook introduces future teachers to the intricacies of the pedagogical process, forms a systematic approach and professionally significant personal qualities of future teachers to pedagogical activity; introduces the future teacher to the structure of pedagogical science, the object of research, the functions and methods of teaching, the school management system; introduces the theoretical and methodological foundations of pedagogy, the theory, and methodology of education, theory and new knowledge on the system of pedagogical management; masters the ways of implementing the pedagogical process and innovative pedagogical technologies (Buzaubakova, 2020, p. 92).

2.1 Structure and content of the electronic textbook "Pedagogy"

The electronic textbook "Pedagogy" plays a special role in the modern process of training and education of future teachers for studying and mastering the methods and techniques of effective use of innovative information and telecommunication technologies.

The electronic textbook "Pedagogy" is meant for the students of higher pedagogical educational institutions, studying for the pedagogical specialties.

The purpose of the electronic textbook is to form a systematic approach of the future teachers to their professional activities; to improve the future teachers' readiness for self-education; to teach future teachers to effectively use digital technologies in the educational process; to form cognitive activity and information, creative competence, digital creative competence of future teachers.

The main menu of the electronic textbook consists of 6 blocks: "Theory"; "It's good to know"; "From the great to the great"; "Glossary"; "Photo gallery"; "Literature".

Towards the end of the main menu of the e-textbook, there is an "exit" click in the centre and an "instruction" and "copyright" click on the right-hand side.

The block of e-textbook "Theory" consists of 12 cells - 12 topics, i.e., 12 lectures.

In the block "Theory" of the electronic textbook are the following cells: "Test"; "Blitz tour"; "Video lesson"; "Pedagogical crossword puzzle"; "Pedagogical situation"; "Creative task".

In the cell, "Test" of the electronic textbook on each topic 10 test tasks are given to control and assess knowledge. If the answer is correct, the sign is green; if it is incorrect, the sign is red; at the end of the test, you will see how many questions have been answered correctly and how much time was spent on them.

You can improve the result by pressing the "again" button. This time the sequence or number of times the test questions arrive is reversed.

In the "Blitz Tour" box of the e-textbook, there are 5 clicks marked with the numbers 1, 2, 3, 4, 5. As a "Who's faster, who's smarter?" game, blitz tour questions are given in the "Blitz Tour" box. Each topic has 5 blitz tour questions.

When the selected cell is opened, the text of the question is given, the set time is 20 seconds, and after 20 seconds the correct answer is opened.

By clicking on the "video lesson" button in the e-textbook, you can view the author's video lesson covering the content of topic 1. Each video lesson has been selected to cover the content of the topic. You can access the Main Menu for Topic 1 by clicking on "Home" in the top right-hand corner of the "Video Lesson" menu.

By clicking on the 'pedagogical situation' button in the e-textbook, you are invited to read 5 pedagogical situations revealing the content of Topic 1 and solve them.

While solving pedagogical situations and cases in the "pedagogical situation" block of the e-textbook the future teacher gets acquainted with the subtleties of his/her profession in real-life situations; he/she learns to diagnose and study the pedagogical process and analyze educational situations; masters effective ways of optimal communication and receives new information on pedagogical monitoring.

It is proposed to solve a pedagogical crossword puzzle revealing the content of each topic by clicking on the "pedagogical crossword puzzle" button of the electronic textbook.

By clicking on the 'creative task' button in the e-textbook, you can view the creative task revealing the content of Theme 1.

The block "Creative tasks" gives the following creative tasks, which reveal the essence of innovative technologies in education and form creative competences of future educators: a strip chart, a crossword puzzle, a video message, find a suitable one, etc.

The block of e-textbook "Wisdom from the Wise" collected wisdom, parables of famous educators and scientists, educators.

The "Glossary" block of the e-textbook lists terms and concepts relating to pedagogy in alphabetical order. The "Photo Gallery" block contains photos from classes on pedagogy.

The "Literature" section of the electronic textbook presents literature on the subject of "Pedagogy".

There is an opportunity to review the methodological guide for working with the electronic textbook by clicking on the "instruction" button of the electronic textbook.

You can close the electronic textbook by pressing the "Exit" button in the main menu of the electronic textbook.

The main feature of the e-textbook "Pedagogics" is that the theoretical material is grouped in such a way as to form the creative competence of a future teacher.

The electronic textbook forms a systematic approach for future teachers to their professional activities; improves future teachers' readiness for self-education; allows future teachers to effectively use digital technologies in the educational process; promotes cognitive activity and information, creative competencies of future teachers; forms digital-creative competences of future teachers in learning.

2.2 Features of the use of the e-textbook "Pedagogy"

The use of digital technologies in teaching and learning aims are: to develop teacher's digital skills; to improve the abilities of the teacher to confidently, effectively, critically and safely choose and apply ICT, to develop the ability to make a critical and confident use of digital technologies.

Most importantly, when using electronic textbook in teaching and learning, the teacher becomes not an interpreter, observer, evaluator of ready-made knowledge, but the core of collective affairs, organizing cognitive activity. Only such training opens the eyes and develops the creativity of a future teacher.

It is beneficial to use an electronic textbook in the educational process of a higher education institution to enable a future educator to independently master new knowledge and conduct creative research.

The main feature of the electronic textbook "Pedagogics" is that the theoretical material is grouped in such a way as to form the creative competence of a future teacher.

While using the 'Pedagogy' e-textbook, teachers become familiar with collecting new information through constructive thinking; critical analysis and evaluation of factual evidence; assured decisions and generalized conclusions; making predictions and rational proposals based on wide experience.

The future educator, considering the given context, develops skills such as collecting arguments and applying adequate criteria for decision-making through observation and listening.

The advantages of using the e-textbook "Pedagogy" to develop the digital competencies of future teachers are the following:

- future teachers work independently: a future teacher independently seeks out and finds in the material under study the necessary material and new information;
- it increases the cognitive activity of future teachers: in the process of learning at different levels, the future teacher activates his/her activities to effectively solve problems arising from his/her interests and needs;
- creative thinking of future teachers is formed: future teacher gets an opportunity to find answers to the most difficult questions, to make decisions, to think constructively; the future teacher learns to assess his/her own, others' point of view and thus to think critically; the future teacher learns to compare, to identify logical links between the previous material and new knowledge;
- a creative search of future teachers is formed: the ability to pose a problem, look for answers to questions, sort out the result, etc.; as a result of critical thinking, future teachers find the best solution to a problem and justify it with arguments; they look for other ways to solve problems; comprehensive independent study, observation, analysis of the pedagogical process creates; they try to prove their idea, their conclusions; the main thing is that the future teacher independently absorbs knowledge.

3 Conclusion

The use of electronic textbooks in higher education institutions is of particular importance because the digital competencies of future teachers are formed only through their practical skills of critical thinking, searching, processing and sorting new information.

A special feature of an electronic textbook is that drawings and tables contained in theoretical material are based on students' creative thinking and creative search.

When using digital technologies in teaching and learning, the computer as a working tool is a means of preparing and remembering text; a text editor; a drawing tool, a table, a graphic editor; a computing machine; a sketching tool.

The use of digital technology in teaching and learning is a method used to understand, evaluate, analyze and synthesize information from control, experience, reflection and reasoning.

The use of digital technologies in learning and teaching involves the collection of relevant information; critical analysis and evaluation of evidence; guaranteed solutions and generalized conclusions; revision of predictions and suggestions based on extensive experience.

The e-textbook "Pedagogy" introduces future teachers to the subtleties of a comprehensive pedagogical process, equips them with the theory of pedagogical activity; shapes a systematic approach and professionally significant personal qualities of future teachers to their professional

activities; shapes the preparedness of future teachers for creative research work, self-education; allows the future teacher to effectively use innovative technologies in their work.

When using the electronic textbook "Pedagogics" in the educational process, future teachers improve their knowledge using different information and video materials, the ability to constructive thinking is increased, interest to the subject is raised, creative search is formed, the opportunity to study again and again the misunderstanding of the topic is opened.

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