также будет способствовать укрупнению уравнений. Для подтверждения обратимся к примерам:

2.1 Найти корни уравнения $6 \cdot 2^{2x} - 13 \cdot 2^x \cdot 3^x + 6 \cdot 3^{2x} = 0$, принадлежащие промежутку (0,3).

2.2 Найти корни уравнения $3 \cdot 2^{2x+1} - 13 \cdot 2^x \cdot 3^x + 2 \cdot 3^{2x+1} = 0$, принадлежащие промежутку (0,3).

2.3 Найти корни уравнения $6 \cdot 4^x - 13 \cdot 2^x \cdot 3^x + 6 \cdot 9^x = 0$, принадлежащие промежутку (0,3).

2.4 Найти корни уравнения $6 \cdot 4^x - 13 \cdot 6^x + 6 \cdot 9^x = 0$, принадлежащие промежутку (0,3).

Более основательно усвоить действия, адекватные различным методам решения показательных уравнений, а значит, и упрочнить навыки работы с этими методами, школьникам позволит знания самих методов решения.

Анализ учебно-методической литературы показал, что в школьном курсе математики можно выделить следующие методы:решение простейшего показательного уравнения, метод приведение к одному основанию, метод введения новой переменной, метод почленного деления, метод группировки, функциональный метод [2].

Методика включения блоков укрупненных уравнений в учебный процесс всегда осуществляется в контексте деятельностного подхода, как методологической основы методики обучения математике.

Заключение. Таким образом, в методике изучения показательных уравнений необходимо образовывать блоки укрупненных уравнений (взаимосвязанных между собой по линии укрупнения своих решений), предоставляющих нам возможность осуществлять укрупнение действий, адекватных различным методам их решений, наиболее вероятно посредством комплекса методических приемов.

Педагогические основы использования укрупнения показательных уравнений в современном образовательном процессе правомерно являются тем средством обучения, без применения которого невозможно активное и прочное усвоение учащимися программного материала, их всестороннее воспитание и развитие, приобщение к труду творческого характерапри меньшем потреблении временных ресурсов.

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ORGANIZATION OF EDUCATIONAL PROCESS USING INFORMATION AND COMMUNICATION TECHNOLOGIES

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Introduction. Informatization, including the rapid growth of global telecommunication networks, primarily the Internet network, entirely changes the socio-political and cultural life of millions of people in all continents. It leads to the formation of the single world information space. Informatization, as a process aimed to create, develop and use the information and communication tools and technologies, opens up completely new possibilities in every sphere of people’s lives, particularly in education.

The aim of this study is to consider the issue of the organization of the educational process using information and communication technologies.

Framework and research methods. Informatization, implementation of information and communication technologies (ICT) opens entirely new possibilities in education and is an integral part of the educational process. It provides significant development and active usage of ICT in the educational process and management activities. This is proved by the Law of Ukraine "About the Fundamentals of Information Society in Ukraine in 2007-2017", the Decree of the President of Ukraine "About the Measures to Provide the Priority Development of Education in Ukraine," the concept of the state program "One Hundred Percent" and other legislative and regulatory and legal documents. The social significance of informatization is that the whole range of issues and problems is defined in the education system by modern information society. It leads to the quality increasing of education through the creation of information and educational environment, to the wide usage of ICT in educational practice.

ICT now constitute the basis in education training. They are an indispensable tool in optimizing the learning process for any academic subject. As a result of their implementation into the educational process, the complicated and controversial problem is solved – to increase information saturation which is limited by the time in class combined with simultaneous accessibility and clarity of educational materials.

The use of ICT in the educational process allows educators to realize their educational ideas, present them to their colleagues and receive feedback; and it gives students the opportunity to choose individually the succession and tempo of studying educational material, training tasks, methods of knowledge assessment . Thus, the most important requirement of the modern education is realized, namely the development of individual work style, the culture of self-determination [1].

Among modern ICT that are widely used currently for the organization of the educational process, namely for training future Doctors of Philosophy (in study of the subject "Media Means in the Educational Process"), we have identified the following:

– software for creating electronic teaching complexes to study different subjects, learning courses (MS Share Point, WebSite Evolution of any version, WordPress, etc.);

– media tools for creating and processing media materials in educational process (Samtasia Studio, Sony Vegas, Macromedia Flash, Cincopa, Sdelatvideo, Progi and other software);

– software for monitoring and results of learning activities (Test W2, MyTest, Master Test, Google forms, LearningApps, etc);

– software for presenting the main results of a modern specialist (MS PowerPoint (using triggers), Prezi, Glogster, Cacoo, etc.);

– services for joint work with documents of different formats (Google Docs, MS Office Live Work Space, Office 365, Web Apps, etc.);

– Mind maps (Bubbl.us, Mind 42, Mindomo, Mindmeister, XMind, FreeMind, Spiderscribe, Zoho, and many others);

– creating and filling sites by means of social services (Google Site, Ukoz, Wix, Webnode, etc.);

– Blogging (Blogger, LiveJournal, Blog, Friendbuzz, Simple Site, Support, EduBlogs);

– photos and geoservices (Picasa, Flickr, Panoramio, Instagram, Google Maps, Google Earth, Scribble Maps, etc.)

– technology Wiki Wiki (Wikipedia, Letopisi, ZapoWiki, DokuWiki, MediaWiki, Tagul and many others);

– services to work with bookmarks (Bobrdobr, Del.icio.us, Rumarkz, Google Notebook, etc.)

– work directly in the global network (on-line consultations, on-line conferences, webinars, web-sessions, work with electronic searching systems, electronic libraries, forums) and many others. [2, 87].

After having studied this subject future PhDs will not only effectively use modern ICT in scientific activities for automation an experiment, statistical data, processing results of the study, and also the subject will orient young scientists on realization of joint projects, creating blogs, websites, mind maps, webinars, to organize distance, electronic and blended learning [3, 3].

Results and their discussion. In the Department of innovation and information technologies in education of Teaching and Research Institute of Pedagogics, Psychology, training of highly qualified specialists in Vinnytsia State Mykailo Kotsiubynskyi Pedagogical University the informatization of the educational process is one of the most important strategic objectives in quality ensuring of education. During the 2007-2016 academic years as a result of informatization and computerization of the educational process the following results were obtained:

– new computer and office equipment is installed, the local network is set up;
– new software is implemented in the educational process;
– we started the work on the development of technologies of distance learning and the introduction of elements of distance learning;
– network educational platform Moodle is implemented;
– the program for advanced training of educators in secondary and vocational educational institutions is developed;
– electronic teaching complexes in more than 40 educational courses are developed and implemented by our department;
– tests for each subject are developed;
– integrated tests for each subject are developed;
– a new version of the portal of the Department innovation and information technology in education is introduced, realizing the informational, educational and communicative functions;
– training of university educators in the sphere of information and communication technologies is organized with the issuance of the certificate.

Conclusions. Informatization, creation and implementation of ICT, providing effective work of information systems and networks are currently worldwide trend of formation of the global information space. The use of ICT in education is an integral part of improving the educational process. However informatization of educational process makes certain requirements for the qualification of an educator, it demands certain knowledge and skills in ICT.

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