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## **TECHNOLOGICAL INNOVATIONS IN THE SYSTEM OF EDUCATION**

The article deals with the problem of using innovations in the process of education. The definition of the term “innovation” is given here. The author writes about the importance of innovations in education. She describes technological innovations that are used at Belarusian Trade and Economic University of Consumer Cooperatives. The author also makes conclusions about the effectiveness of technologies and their role in modern education [1–4].

В статье автор рассматривает проблемы инноваций в образовании, дает определение инновации, рассказывает о важности инновационных процессов в системе образования. В статье описываются технологические инновации, которые используются в Белорусском торгово-экономическом университете потребительской кооперации (компьютерное обучение, использование компьютерных обучающих программ, доступ к сети Интернет, дистанционное обучение, вебинары, электронная библиотека и др.). Автор также делает выводы об эффективности новых технологий и их роли в современном образовании.

Innovation is defined as “the process of making changes to something established by introducing something new.” It applies to “...radical or incremental changes to products, processes or services.” [1]. Over the years there have been many changes in the way education is designed and delivered in parts of the world.

Today, technology is a significant driver behind change, and sometimes plays an important role in innovations in educational design. There are immense possibilities for greater and wider-spread change with the use of modern technologies, as well as with the implementation of innovative educational programs.

Technologies that are now available in most countries increase the potential to support learners and educators, and can help remove the barriers of time and distance. New information and communications technologies do not replace all previous ones, nor do they replace the need for good educational design and delivery. However, appropriate technologies can provide additional possibilities for learner support, interactivity, and access to education.

The profusion of digital technology at work, home and everywhere in between is evident to even the most casual observer. In this climate, it’s understandable why many educational institutions are interested in technological integration and innovation. While it seems clear that students will increasingly be expected to be adept at using digital tools in their professional and personal lives, there isn’t great clarity on how exactly these tools should be used. Technology, by itself, isn’t curative. Human agency shapes the path.

In light of this dynamic, two critical questions need to be asked and provisionally answered when integrating technology into education. The first question, while obvious at first glance, isn’t always fully articulated: “What are the educational goals of technology integration?”

The second question is equally important and often more elusive: “Do the current systems and processes support the integrative and innovative goals?”

The answer to the first question – about the goals of technology integration – often orbits around 21st century skills. Our system of universal education was designed to meet the social and economic needs of the industrial revolution, which was defined by a world of standardization. While the industrial revolution has been added to the annals of history, our system of education has not.

The social and economic world of today and tomorrow require people who can critically and creatively work in teams to solve problems. Technology widens the spectrum of how individuals and teams can access, construct and communicate knowledge. Education, for the most part, isn’t creating learners along these lines.

Answers to the second question (Do the current systems and processes support the integrative and innovative goals?) are rarely offered because the question is seldom asked.

The organization of educational institutions – their systems, processes and values – were deliberately designed to accomplish specific objectives. Departments, classes, bells, rows of desks, lectures, textbooks, standardized tests, and grades are all aspects of universities’ organizational structure that were conceived to train students in the image of industrial society. Within this model, standardization and mass production rule supreme.

Belarusian Trade and Economic University of Consumer Cooperatives began to use modern technologies in the teaching process not long ago. The computing infrastructure provisions of the university

include the hardware, software, Internet services, networking and connectivity requirements necessary for the teaching and learning and for the administration of the university. Wireless access to the Internet, personal digital assistants (PDAs), and other mobile devices, such as notebooks and laptops, are all examples of common technologies found in the university.

A broad range of university activities are supported through an information technologies (IT) or a technological infrastructure, such as:

- teaching and learning in classrooms, in computer laboratories and at home;
- administration and record-keeping;
- information provision within and outside the university;
- communication to teachers, students and parents;
- online content provision;
- borrowing books.

The devices (or hardware) that support these respective university activities each employ different sorts of software applications. Both synchronous and asynchronous software is used to support face-to-face and online learning.

Technologies offer educators and students alike opportunities for creating meaningful learning environments. Technologies enable different types of social interaction, provide ready access to information and can overcome some of the difficulties presented by time and space. Students can create new materials, artifacts and new knowledge with the media tools now available to them.

Video is another tool that has been on the rise in recent years. About 46 percent of our teachers are using video in the classroom.

Online learning in many forms is on the rise in universities of all types across the country. Students in many parts of the country now have a long list of choices when it comes to e-learning. And since 2014 Belarusian Trade and Economic University of Consumer Cooperatives has been offering distant e-learning.

Many universities are no longer debating whether social networking should play a role in education. Instead, that debate has shifted to what social networking tools work best and how to deploy them. Some universities are using mainstream social networking tools, like Facebook, for everything from promoting educational events to organizing clubs as well as for more academic purposes related to assignments and class projects. Many educators say the academic benefits of social networking are real. They allow students to work cooperatively on projects in an online environment that feels familiar to students. Teachers often report that a student who does not speak up in class will be more engaged on a social networking site and that these sites allow instructors to extend the school day.

So, technology improves education to a great extent and it has now become a need for revolutionizing education for the better. With technology, educators, students and parents have a variety of learning tools at their fingertips. Here are some of the ways in which technology improves education over time:

- Teachers can collaborate to share their ideas and resources online: They can communicate with others across the world in an instant, meet the shortcomings of their work, refine it and provide their students with the best. This approach definitely enhances the practice of teaching.

- Students can develop valuable research skills at a young age: Technology gives students immediate access to an abundance of quality information which leads to learning at much quicker rates than before.

- Students and teachers have access to an expanse of material: There are plenty of resourceful, credible websites available on the Internet that both teachers and students can utilize. The Internet also provides a variety of knowledge and doesn't limit students to one person's opinion.

- Online learning is now an equally credible option: Face-to-face interaction is huge, especially in the younger years, but some students work better when they can go at their own pace. Online education is now accredited and has changed the way we view education.

The teachers of our university are using such innovations as:

- The Flipped Classroom: This popular technological approach has gotten to everybody's ears by now. It is a practice in which, students watch lecture videos as homework and discussion is carried on them in the class-time by the teachers. It has resulted in a remarkably better student performance, with noticeable grade boost-up. Students can now learn at their own pace and save class-time for interaction.

- Our teachers and lecturers are sure that educational technology improves student learning outcomes: Evidence suggests that educational technologies can improve student achievement, so long as such tools are integrated thoughtfully into teaching and learning. When digital capabilities like, online environments are incorporated meaningfully into instruction, students have new opportunities to learn and achieve. They say the effect of technology on education depends on the design of instruction: The design of the instruction accounts for more variance in how and why people learn than the technology used to deliver the instruction.

Educators and educational researchers should be encouraged to focus on determining how to better integrate the use of a given technology to facilitate learning, rather than asking if it works or if one is more effective than another.

So far, the overall impact of technology in education has been modest compared to its impact in other fields. According to research, 60 percent of students say their technology expectations are still not being met. But it is clear that today's students have more options than ever, with virtual schools, open education initiatives and massive open online courses, and online classes and programs.

Of course, technology is no silver bullet. And it's no replacement for good teaching. But no doubt education is becoming more of a marketplace. With budgets tight and revenue sources less predictable, institutions will need to compete and innovate in order to stay relevant. Increasingly, education will be a choice made by learners who are looking for something different. And it's increasingly easy for them to differentiate between options that are serious about the future and those that aren't.

Active learners move fast. To remain (or become) successful, institutions must keep up with them, or risk being left behind.

Over the past years, a number of studies have shown benefits from the use of technology in education. The role of technology in education is vital.

### References

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