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RESEARCHING THE SUBJECT OF DIGITIZATION OF EDUCATION

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ABOUT ARTICLE

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Abstract: Digital learning and education are as important as formal education has been up to now, however there is a much larger amount of information available through digital learning. By using a variety of technical tools, a greater number of information can be displayed, and the material presented is more interesting. Digital learning and education are as important as formal education has been up to now, however there is a much larger amount of information available through digital learning. By using a variety of technical tools, a greater number of information can be displayed, and the material presented is more interesting. If you are doing research, you can get plenty of other research papers that can be presented to those who study. The very way of research and analysis has changed much since the emergence of the Internet and IT technology. Today one does not have to travel to certain parts of the world, but can work with others via the Internet or video conference calls.

INTRODUCTION

From now on, in maximum four to six years, the big changes are expected to happen. What does this mean for education and digitization? It means that there are still faculties with professions that people are educated for, but the relevance of many of those professions in the world today is declining (not to mention the discrepancy between developed and undeveloped parts of the world). Young people and students are in danger that, after years of education, they will not be able to find a job suitable for their profession. That is why today's faculties, educational centers and institutions must make major changes in the field of education. Education should not be based solely on theory, since it is easier for educators

when working with larger number of students, but it must also be in line with the balance of practical knowledge and skills that are necessary when starting profession. The employer is not interested in theory, rather in the utilization of certain practical skills and knowledge that will improve his work. Unfortunately, in modern society today, everyone wants a finished product.

Materials and methods. Such principle applies to all future employees as well, where employers need an educated worker with practical knowledge that can be easily applied for the position required. There is a notion of the insufficient cooperation between companies, employers and educational institutions in general.

Therefore, it is essential to develop a continuous course in improving practice during the period of four to six years of study at the faculty. It is important to emphasize, that there are still a great number of those getting education in certain professions that either don't exist after the students' graduation, are no longer needed or are not in demand in the current labor market. The incoming changes can create unnecessary panic. Therefore, the capabilities of future researchers on the matter are crucial in anticipating the possible consequences in societies in the next 5, 10, 15 or 20 years. After the initial study in accordance with the defined cause, consequences and phenomena, higher education reforms should be carried out, especially in underdeveloped areas, but in countries as well. First, education as an industry undergoes digitalization processes and becomes part of the digital economy. Second, the rapid development of ICT brings these technologies to the forefront as a tool for transforming the education process itself as a system of knowledge transfer. Third, due to its interdisciplinarity, ICTs serve as an object of study and change the content of educational programs for almost all profiles. In practice, these representations are the models of the upper level.

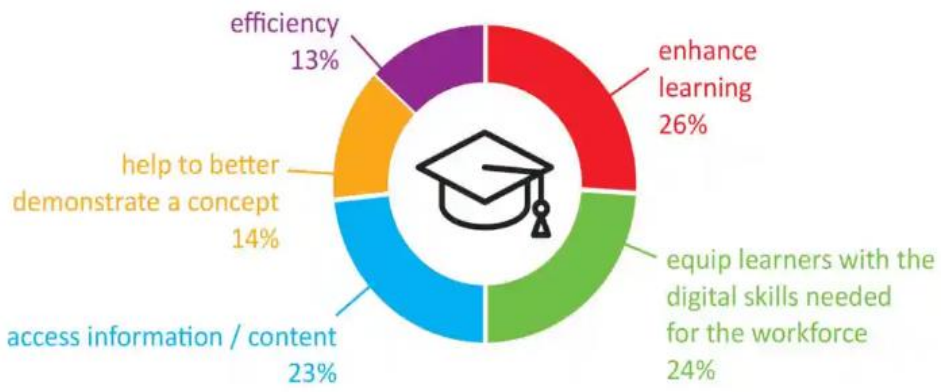

Figure 1. The main benefits of digital education

Top-level models can be detailed in-depth as required for the study. For example, training can be described as the following sequence of actions: content formation, demonstration of educational material, consolidation of educational material, and knowledge control. At some subsequent level of detail, "learning" will be described by the following sequence of actions: "interaction," "communication," "motivation," and so on. And, for example, the decomposition of the action "recruitment to an educational institution" will require, among other things, the use of "communication with applicants" and other clarifying actions. As shown in research and practice digitalization processes are many times limited to implementation of digital technologies without pedagogical and organizational change. In this study it is argued for a broader perspective on the concept of digitalization, viewing it as a process

involving change and transformation in different stages and several organizational levels. Based on cultural–historical activity theory and the concept of levels of learning, this study will elaborate on the concept of digitalization as well as how schools are dealing with digital and educational change. Two schools known for their large-scale digitalization processes are analyzed. In the analysis, it is indicated that the object of digitalization harbors an idea that influence how digitalization is planned for and enacted within the school organization. In this section, we present a description of each school based on stories told by school leaders, local and regional educational technologists, administrators, and teachers regarding previous and ongoing digitalization. Respondents described how they understand and conceptualize the object and process of digitalization, how they deal with digital and educational change, and how new educational practices and organizational infrastructures have occurred.

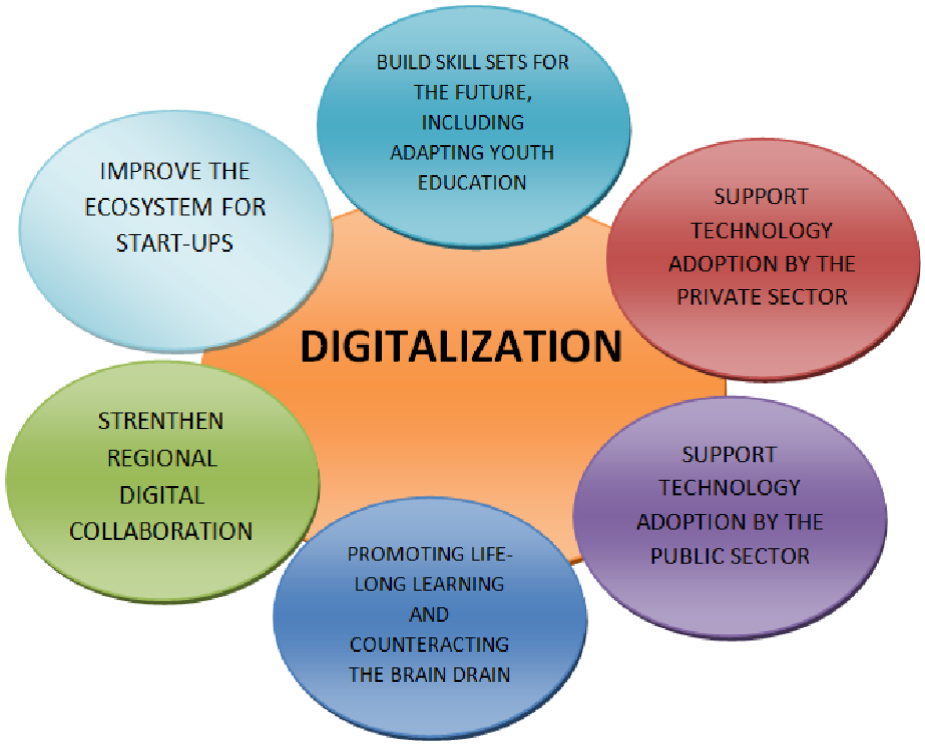

Figure 2. Applicable policies for increasing the level of digitalization

Those descriptions have been supplemented by policy documents and project descriptions from the two schools. As described, the paper burden, lack of communication between home and school, and endeavor to develop systems to administer teaching and learning were put forth as important objectives driving digitalization. Moreover, the vision is, according to the school leader, to become a paper-free school, meaning that tasks previously handled on paper-applications, notifications, reports, assignments, and schoolwork-should be done digitally and be available online. This becomes visible when schools work with close interaction between digital student support and teachers' professional development, for example. This example illustrates how the development of students' digital learning is expected to support digital development in school and the classroom, i.e., development from the micro- to macro-level and vice versa. Another example is strategic administrative changes on macro level with time saved for teachers' development in classroom. By pointing out this potential, digitalization is described as a tool to reduce administrative workload, which in turn enables time for teachers' digital development in the classroom. This was described by the school leader, who stated, "Most people are driven, curious and competent. What they need are peace and quiet and to be

protected from the administrative burden", and that this "has been the driving force – reduce the paper burden and increase the digital use among colleagues and students". Third theme relates to organizational support. For deep and sustainable change and development, teachers, educational technologists, and school leaders emphasize the importance of support. An educational technologist at the local school described weekly meetings for students to reflect upon digital solutions for their schoolwork, confirming that "it is not possible to have digitalized teaching if the students cannot use the digital products". According to teachers, student support and engagement in digitalizing the classroom has meant changes in the division of labor between teachers and students: "Benefits are that the students are trained to take responsibility and the teaching can be, or it has become, much more adapted to individual needs". On the teacher level, organizational support is arranged as collegial learning with time released to help and support each other. Such an interplay also became evident in this study and in schools' descriptions of rigorous support and interaction among students, teachers, parents, and school leaders as a means for digitalization and educational change at all levels. As shown in the analysis, efforts with educational change in the classroom interact for example with supportive macro-level properties.

Figure 3. Drivers of digital transformation in Higher Education

With the advancements in engineering and the first and second industrial revolutions, humanity experienced the rapid transition from a craft-based to an industrialized society. The invention of the computer mid-last century initiated the third industrial revolution or digital revolution, which started the digitalization of society, a society in which documents were digitized, and communication became digital. Now we can already observe the fourth industrial revolution, which integrates digital solutions to develop smart systems that are autonomous and independent of humans. Digitalization started early in the last century, but it remained limited and did not yet significantly impact or control aspects of the broader society. In these early days, life sciences university's such as Wageningen University were less involved with digitalization issues. Certainly, times have changed now and will change even faster in the years to come. Computers and computer languages have become more powerful. What was not possible before, has become possible. What could not be processed quickly, can now be processed in real-time. Businesses that never anticipated the

need for digitalization have become ICT businesses in their earlier core domains. Software is a business-critical asset in the production and value chain of many products and services.

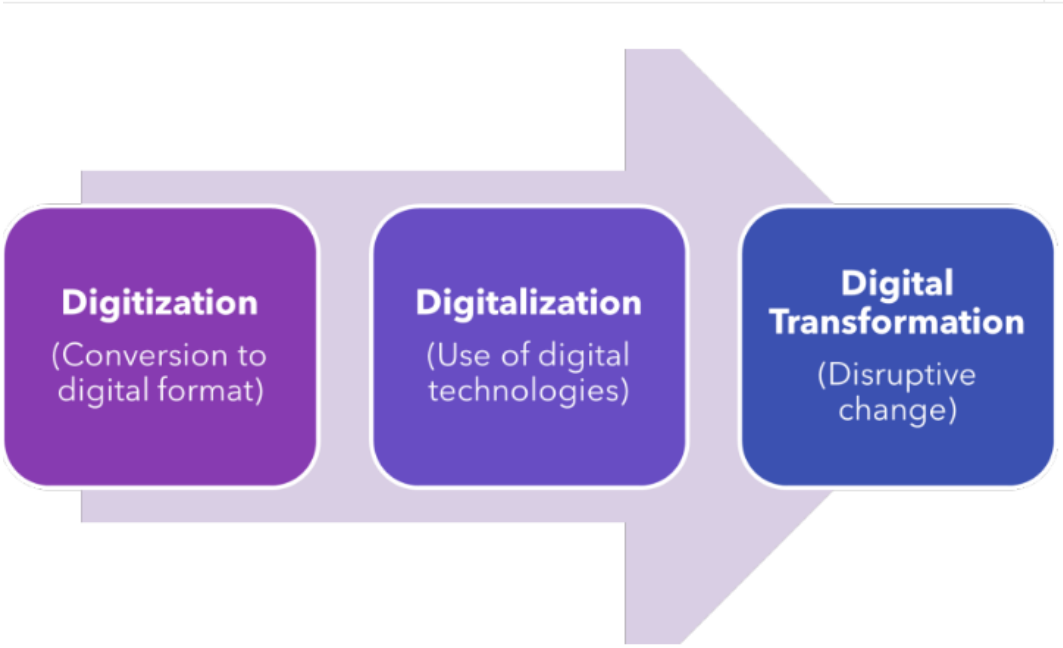

Figure 4. Digitalization: Past, Present, and Future

Physical systems are now being controlled by ICT systems leading to cyber-physical systems. With the Internet of Things, most of the communication on the Internet is increasingly not among human beings but things, thinking things. Physical objects are monitored by their digital twins, which can take action on behalf of the physical objects. Powerful machine learning and deep learning algorithms can be applied to quickly process large data sets, and perform advanced data analytics. With new digital solutions such as quantum computing, the growth will be even further accelerated. We are over the tipping point; digitalization is with us and will have a further increasing global impact.

Concluding of the view, digital education requires teachers to acquire new skills that they may not have had the opportunity to acquire before. However, the benefits of digital education for both learners and teachers provides significant impetus for teachers to develop new skills. Consider the infographic below. The process itself entails the following request, namely: the changes in pre-school, primary, secondary and higher education. It is noted that educational reforms are closely linked to a digital education and changes in the field of IT technology, and soon to be in the robotics as well. Education, as a branch of the economy and as a system and process of knowledge transfer, is subject to the same changes that are currently undergoing in all areas of human activity under the influence of information and communication technologies (ICT).

REFERENCES

1. Asvial, M., Mayangsari, J., Yudistriansyah, A., 2021. Behavioral Intention of E-Learning: A Case Study of Distance Learning at a Junior High School in Indonesia due to the Covid19 Pandemic. International Journal of Technology, Volume 12(1), pp. 54–64

2. Bozkurt, A., 2020. Educational Technology Research Patterns in the Realm of The Digital Knowledge Age. Journal of Interactive Media in Education, 2020(1), pp. 1–17

3. Bozkurt, A., Zawacki-Richter, O., 2021. Trends and Patterns in Distance Education (2014– 2019): A Synthesis of Scholarly Publications and a Visualization of the Intellectual Landscape. The International Review of Research in Open and Distributed Learning, Volume 22(2), pp. 19–45

4. Koroleva, E., Kuratova, A., 2020. Higher Education and Digitalization of the Economy: The Case of Russian Regions. International Journal of Technology, Volume 11(6), pp. 1181– 1190

5. Moore, M.G., 1997. Theory of Transactional Distance. In D. Keegan, (ed.), Theoretical Principles of Distance Education. New York: Routledge

6. Reigeluth, C.M., Carr-Chellman, A.A., 2009. Instructional-design Theories and Models: Building a Common Knowledge Base, Volume 3, New York: Routledge

7. Suwartha, N., Berawi, M.A., 2019. The Role of UI GreenMetric as a Global Sustainable Rankings for Higher Education Institutions. International Journal of Technology, Volume 10(5), pp. 862–865

8. Zawacki-Richter, O., Latchem, C., 2018. Exploring Four Decades of Research in Computers & Education. Computers & Education, Volume 122

9. Yıldız, G., Yıldırım, A., Akça, B.A., Kök, A., Özer, A., Karataş, S., 2020. Research Trends in Mobile Learning. The International Review of Research in Open and Distributed Learning, Volume 21(3), pp. 175–196.

10. Абдуллаев Бахтиёр Панжи угли (2023) ЦИФРОВИЗАЦИЯ ОБРАЗОВАНИЯ КАК АСПЕКТ ПОВЫШЕНИЯ КАЧЕСТВА ОБУЧЕНИЯ // (Namangan davlat universiteti ilmiy axborotnomasi 7-son), 2023-yil.

11. Abdullaev Baxtiyor Panji o‘g‘li. TA’LIMNI RAQAMLASHTIRISH KONTSEPSIYALARI MAZMUN VA MOHIYATI // Yangilanayotgan O‘zbekiston taraqqiyotida iqtisodiy fanlarni o‘qitishning dolzarb masalalari respublika ilmiy-amaliy konferensiyasi 16-iyun, 2023- yil