

policies/eurydice/content/modernisation-higher-education-europe-academic-staff-2017-0_en

2. Kondratska, H., Grigorieva, N., Kugai, K., Vyshnevskaya, M., & Sapozhnykov, S. (2023). European experience of dual education for future teachers in Ukraine. *Amazonia Investiga*, 12(71), 271-283. Retrieved from <https://www.amazoniainvestiga.info/index.php/amazonia/article/view/2602>

3. Ничкало, Н.Г. (2014). Розвиток професійної освіти в умовах глобалізаційних та інтеграційних процесів: монографія. Київ: Видавництво НПУ імені М.П. Драгоманова.

Yurii Haman

Kyiv National University of Technologies and Design (Kyiv), postgraduate

Olexandr Shavolkin

Scientific supervisor – professor, Doctor of Technical Sciences

Yelizaveta Isakova

Language consultant, PhD in Philology, Associate professor
Kyiv National University of Technologies and Design (Kyiv)

THE IMPACT OF TECHNOLOGY ON HIGHER EDUCATION INSTITUTIONS

We are living in a rapidly changing world where old technologies are constantly replaced by new ones. Many companies in different areas have adopted Industry 4.0 technologies like big data, blockchain, IoT, and so on. Digitalization of many processes allows to increase degree of automatization, optimizes production and development for a variety of products, and decreases the chance of human error. Unfortunately, higher education institutions (HEIs) do not always reflect industry demands in their curriculum. As a result, students after graduation should additionally learn some relevant technologies.

Cagatay Catal et al. [1] shows the importance of including subjects like Data Management, Big Data, and Programming in university curricula not only for students studying computer science but also for fields such as environmental sciences, plant sciences, food technology, and animal sciences. It is justified because, for example, modern greenhouse collects data from many servers that are handled and visualized on different cloud platforms. Innovative technologies automate processes like plant watering temperature control. The personnel at the greenhouse should know how to effectively use all these technologies and how to troubleshoot basic problems. And of course, education plays a significant role in the preparation of specialists that meet industry demands.

It is important to mention that technological progress is not only reflected in the curriculum but also has a considerable influence on general education processes. Thanks to innovative technologies during the COVID-19 pandemic a substantial number of universities could take online classes. This became possible due to cloud services, virtual lab environments, online education platforms and the wide availability of the Internet. Online education has many advantages. Among them are flexibility, personalized learning and accessibility **[Помилка! Джерело посилання не знайдено.]**. However, the COVID-19 pandemic revealed also significant drawbacks to this approach. Due to social isolation, there were reports of an increase of depression and anxiety **[Помилка! Джерело посилання не знайдено.]**. Rafail Bachtsis et al. **[Помилка! Джерело посилання не знайдено.]** draw attention to the challenges that students with special needs have during the online education process. Such students can have psychological problems, and some of them may need parent's support. Despite the issues mentioned above, online education is becoming increasingly popular, even after the COVID-19 pandemic, as many people prefer it.

As we are in a transition from industry 4.0 to 5.0 HEIs will have to adapt to the innovations that I5.0 will bring. I5.0 implies green technologies, energy efficiency and sustainable development [Помилка! Джерело посилання не знайдено.]. It means that universities should focus on power consumption reducing, optimizing IT infrastructure and orient development toward sustainability.

To summarize technological progress has a significant impact on the curriculum of HEIs, education processes and management strategies. Universities should always keep up with the times to provide a bright future for the next generations.

REFERENCES

1. Cagatay Catal, Bedir Tekinerdogan; Aligning Education for the Life Sciences Domain to Support Digitalization and Industry 4.0, *Procedia Computer Science* 158 (2019) 99–106.
2. Rajaraman, G.; Klein, R.; Sinnayah, P. ZOOMED IN, ZONED OUT: Academic Self-Reports on the Challenges and Benefits of Online Teaching in Higher Education. *Educ. Sci.* 2024, 14, 133. <https://doi.org/10.3390/educsci14020133>.
3. Bachtsis, R.; Perifanou, M.; Economides, A.A. Challenges Faced by Students with Special Needs in Primary Education during Online Teaching. *Educ. Sci.* 2024, 14, 220. <https://doi.org/10.3390/educsci14030220>.
4. Mohamed Ashmel Mohamed Hashim , Issam Tlemsani, Rachel Mason-Jones Robin Matthews, Vera Ndrecaj; Higher education via the lens of industry 5.0: Strategy and perspective, *Social Sciences & Humanities Open* 9 (2024) 100828.