

Executive summary

Hungary's progress to date in digitalising higher education

The Hungarian higher education system experienced a sudden and massive shift to fully online learning in the spring of 2020 in the context of the coronavirus (COVID-19) pandemic. While the Hungarian government had announced ambitious goals to support the digitalisation of higher education before the onset of the pandemic, progress until then had been uneven and difficult to track. This is due, in part, to the variety of approaches that higher education institutions (HEIs) take to the digitalisation of their practices and to the lack of system-wide definitions and measures of digitalisation – a situation that Hungary has in common with many OECD countries.

Despite these limitations, Hungary has achieved some success in a number of dimensions relevant to the digitalisation of higher education:

- In terms of the digital readiness of its higher education system, Hungary has made progress through infrastructure investments, notably with respect to Internet connectivity and the development of data systems for higher education management.
- The Hungarian government has also set up a policy framework to encourage the digitalisation of higher education through the Digital Education Strategy (DES) and the Shifting of Gears in Higher Education Mid-Term Policy Strategy (Shifting of Gears), both involving action plans established for the period 2016-20. Together, these strategic documents identify current barriers to digitalisation and strengths on which to build, set ambitious objectives, and formulate a series of specific actions that could advance digitalisation.
- The take-up of digital practices in Hungarian higher education for teaching, learning and research has significantly increased as a result of the pandemic, with both students and teachers reporting widespread and frequent use of digital tools according to the project's survey. In addition, the pandemic has played an important role in making digitalisation a key priority of HEIs, most of which reported institution-wide initiatives to develop learning materials and facilitate remote teaching.

Areas for improvement include the need for broader take-up and more effective use of digital technologies among students and staff. This requires the provision of adequate support for both teachers and students to assist them in using technologies, as well as incentives that increase the motivation of higher education staff – especially teachers – to use technologies. Broader take-up can, in turn, improve the shares of expert users of digital technologies among students and staff. Broader take-up of digital technologies can also facilitate the development of approaches such as learning analytics, which take advantage of data generated by digital practices to identify students at risk of academic failure and connect them with proper supports, whether on line or in person. These improvements require joint efforts by public authorities and HEIs, including higher education students, staff and leaders.

Policies to further support Hungary's digitalisation of higher education

The government's DES and Shifting of Gears Strategy established valuable objectives and actions to contribute to the digitalisation of the national higher education system. However, these strategies need to be complemented in two main ways. First, policy changes need to remove barriers to digitalisation in higher education. They also need to incentivise the substantial change in institutional and individual practices required for digital practices to take root in the Hungarian higher education system and contribute to enhanced higher education performance. Second, a framework to measure the digitalisation of higher education needs to be established to monitor progress and identify areas for improvement and investment.

Based on an analysis of current policies in Hungary and drawing from international experience, this report provides 12 recommendations across 4 areas that the Hungarian government, in close collaboration with HEIs, may consider. These areas can be regarded as phases in implementing a comprehensive higher education digitalisation strategy. The recommendations are outlined in the table below.

Setting the direction: The policy framework

This means understanding the needs and experiences of higher education staff and students, defining and communicating the strategy for digitalisation and developing a plan that will deliver on the strategy. It involves including the costs of digitalisation in budgets and ensuring there are tools for measuring digitalisation and monitoring success in achieving the goals and objectives of the strategy.

Recommendation 1	Create mechanisms to build (and regularly revisit) an understanding of higher education staff and students' digital practices, needs and attitudes to inform policy
Recommendation 2	Review the regulatory and funding framework for digitalisation in higher education to encourage institutional strategies that support the take-up of digital practices among students and staff
Recommendation 3	Encourage institutions to draw on best practices, from Hungary and other countries, in planning for and rolling out the digitalisation of higher education
Recommendation 4	Design a plan for collecting and analysing data on digitalisation in teaching and learning

Building the foundation: Digital infrastructure and data systems

This means providing and funding the infrastructure necessary to implement the strategy, infrastructure that allows for data to be collected, housed, managed and analysed. It includes, but goes beyond, digital infrastructure. It means ensuring there is a reliable network and the availability of skilled people to manage and maintain the infrastructure. It includes creating policies and standards, such as the requirement for interoperability of systems, uniform data quality processes and standards, and minimum hardware standards. To get value from the additional data generated by a digitalised higher education system implies ensuring that people are employed to analyse the data and communicate the analysis findings.

Recommendation 5	Reconsider the centralised approach to ICT systems procurement and collaboratively develop with HEIs criteria to support well-informed digital infrastructure strategies and investments
Recommendation 6	Consider targeted funding to expand access to hardware and software and increase the capacity of HEIs to provide support to students and staff
Recommendation 7	Create data policies and standards

Developing the processes: Teaching, research and engagement

Effective digitalisation implies changes in teaching, learning, research and engagement. This requires changes in both incentives and capabilities. Incentive systems – the funding of institutions and the remuneration and career advancement of individuals – need to be adapted to reflect the new opportunities, and the new tasks, created by digitalisation. Increasing capabilities requires a commitment to the training and support of staff.

Recommendation 8	Strengthen supports for higher education staff to expand the adoption of digitally enhanced, student-centred pedagogies
Recommendation 9	Revise the employment framework for Hungarian higher education staff to reward quality digital teaching and identify and disseminate examples of excellent teaching
Recommendation 10	Explore the potential of using learner analytics to lift learner success

Delivering benefits to users: Students, graduates and employers

A digitalisation approach needs to ensure that actors within the higher education system – students, research consumers, employers – benefit from digitalisation. For students, this means designing academic programmes that recognise learning outcomes from digital (as well as traditional) formats. It includes enabling students to have sufficient access to the information they need to support their learning. It means allowing them to study in flexible modes and ensuring that they graduate with the digital skills that employers want and expect of graduates in the 21st century. It also includes providing support for student learning and ensuring that delivery is designed to be interesting and enjoyable, as well as instructive.

Recommendation 11	Engage in analysis and research into problems of access to higher education among some groups and develop interventions to enhance equity of access
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Measuring the digitalisation of Hungary's higher education system going forward

OECD countries face difficulties in measuring how much digitalisation is taking place in their higher education systems, the ways digitalisation is unfolding and changing the practices of their staff and students, and the impact of digitalisation on higher education performance. The lack of system-level data on the digitalisation of higher education observed in Hungary and other OECD countries stems from several factors. These include, in particular: 1) the low priority – until recently – placed by government on monitoring digitalisation in higher education; 2) the difficulty of defining digital higher education given the wide diversity of practices referred to by commonly used terms, such as “e-learning” or “digitally enhanced teaching and learning”, and the increasingly blurred line between different degrees of digitalisation as the use of at least *some* digital technologies for *some* higher education activities is now widespread; and 3) the need for adequate, and potentially costly, data collection tools to help understand the practices and attitudes to technology of higher education students and staff. At the same time, the digitalisation of higher education involves new measurement opportunities: combined with student outcomes data, the rich data generated by learning management systems (LMS) and virtual learning environments (VLE) can generate rich insights into student engagement in learning and can be used to support student success.

Three key methods for measuring the digitalisation of higher education used internationally include national administrative data collection; surveys of higher education students and staff; and learning analytics. Each of these methods involves benefits and drawbacks for monitoring the digitalisation of higher education, discussed in the report. Given their respective benefits, however, these three methods can be used in a complementary manner to generate a nuanced understanding of the level, nature and impact of digitalisation in higher education.

Hungary has a comprehensive administrative data system in higher education. However, administrative data collection on the digitalisation of higher education is limited, and evidence on the digitalisation of higher education is primarily collected through surveys. In 2020, a student survey and two ad hoc surveys of institutional leaders were conducted to support higher education policy making and institutional planning and management. While the use of LMS/VLE has substantially increased since the start of the pandemic, learning analytics does not yet seem to be widespread in Hungarian higher education. Opportunities therefore exist for Hungary to further improve the collection – and use – of data to support the monitoring and improvement of digitalisation in higher education.

Drawing from comparative analysis regarding the implementation of these data collection methods and a review of higher education data systems in Hungary, the report provides suggestions to support Hungarian authorities in moving forward with measuring digitalisation in their system. These suggestions include:

- Analytical steps to take prior to new data collection, with particular emphasis on defining the purpose of new data collection and enhancing the use of current and future data collected.
- The recommendation to develop a descriptive, qualitative summary of the state of alignment between the Hungarian higher education policy framework and the needs of a digital higher education system.
- A list of 30 potential digitalisation indicators generating quantitative information. These include 6 indicators of digital readiness, 14 indicators of digital practices, and 10 indicators of digital performance.

The list of potential indicators for measuring the digitalisation of Hungarian higher education is deliberately extensive. It aims to be a starting point as Hungary's public authorities and higher education stakeholders collaborate in the development of a system to monitor the digital transformation of their nation's higher education system.



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