

Digitalization of Higher Education in Japan: Challenges and Reflections for Education Reform

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Abstract

With the onslaught of the COVID-19 pandemic, Japanese higher education (HE) began the process of full digitalization in the academic year 2020. Considering that Japanese HE was previously dominated by face-to-face learning, the efforts of the stakeholders to implement digitalization deserve praise. However, digitalization has shown varying degrees of progress, both in terms of the type of education as well as between and within organizations. This study investigates the status of HE digitalization in Japan focusing on central government policy measures, the teaching and learning by faculties and students who are the traditional bearers of education, and the concept of lifelong learning and continuing education, which is exponentially attracting attention as a new area of study. This research also examines how those involved can use digitalization to improve HE and the goals and challenges of the transformation. Although the measures against the impact of the pandemic on the education sector greatly improved the digitalization of education in universities, other essential issues for educational reform became apparent. To take full advantage of the benefits of digitalization, it is necessary to re-examine the factors that hinder it, such as the changes in awareness among stakeholders, and take immediate measures to address them. In this context, dialogue is extremely important. The stakeholders should discuss how digitalization can enhance the value of university education.

Keywords: digitalization, education reform, higher education, Japan, lifelong learning, pandemic, policy

Introduction

. According to Iiyoshi (2020), compared to most universities in developed and developing countries, Japanese universities lagged far behind in the use of Information and Communications Technology (ICT) for education prior to the COVID-19 pandemic (hereinafter referred to as “the pandemic”). This was influenced by

the perception that university education should be conducted within walls where students in universities acquire specialized knowledge and skills essential for the industrialized society in an almost uniform and collective manner (Iiyoshi, 2020). Additionally, there were structural factors that did not encourage digitalization, such as the small number of adult students among the undergraduates and the regulations that limited credit scores for distance learning.

However, the pandemic has completely transformed the learning environment in universities. The emergency restrictions, which have been issued intermittently since April 2020, forced universities to immediately change their mode of teaching from face-to-face to full-time online classes (Yamauchi, 2021).

Thus, this study investigates the developing situation in university education in Japan by focusing on four factors: (1) the Ministry of Education, Culture, Sports, Science and Technology (MEXT) as the policy decision maker, (2) academic staff, (3) students, and (4) lifelong learning. The researchers also examine how digitalization, defined as the provision of education through learning management system (LMS) or massive open online courses (MOOCs) (Bygstad et al., 2022), has led to reforms in education in universities.

This study also describes the relevant policies and actors in the digitalization of higher education (HE) in Japan; outlines the responses of academic staff and students, respectively and provides an overview of the digitalization of lifelong learning,

There are 788 universities and colleges in Japan, and they are categorized into three types—national, municipal, and private. Almost three-quarters of the universities are private. Enrollment rates were approximately 83.8 % for postsecondary education and 54.9% for universities and colleges under 4-year degree courses in 2021 (Ministry of Education, Culture, Sports, Science and Technology [MEXT], 2021a).

One of the characteristics of Japanese undergraduates is their low average age. In 2016, the average age of first-time entrants to HE in Japan was 18 years, which is 4 years less than the average of 22 years in the Organization for Economic Cooperation and Development (OECD) member countries (Organization for Economic Cooperation and Development [OECD], 2018). This indicates that most Japanese undergraduate students have high affinity for the digital environment based on their generation. Traditionally, Japanese faculties spend extensive time on research (Shin et al., 2014); however, the time spent on education has increased along with that of the total working hours (MEXT, 2022a). This is due to the implementation of policies and efforts of universities, which are based on the Council for University Education's 2008 report highlighting the improvement of education in universities through the substantiation of the credit system. These changes have impacted the awareness and attitude of faculties towards education reform, especially with digitalization.

MEXT'S Policy on The Digitalization of University Education and Related Actors

Prior to the pandemic, MEXT had been planning for the digitalization of the university system. For instance, in 1999, MEXT set the upper credit limit that can be earned through remote learning at 60. However, during this period, demand for remote learning was low among Japanese universities (Funamori, 2017; Shibukawa, 2020). In November 2018, the Central Council for Education, established under the MEXT, submitted a report entitled "Grand Design of Higher Education Toward 2040". The report indicated the digitalization of higher education as an important policy issue for the realization of "Society 5.0", that is a "human-centered society that balances economic advancement with the resolution of social problems by a system that highly integrates cyberspace and physical space" (Central Council for Education, 2018).

The emergence of COVID-19 prompted Japanese universities to adopt remote learning. A MEXT survey conducted in June 2020 revealed that approximately 90% of universities were offering remote classes, and approximately 60% were not offering face-to-face classes at all (MEXT, 2020a). In response, in July 2020, MEXT took special measures to allow students to take more than 60 credits of remote classes (MEXT, 2020b). On the other hand, students had complained about the lack of opportunities for face-to-face interaction and the poor quality of remote classes since the spring semester of 2020. Consequently, MEXT emphasized that each university should actively implement face-to-face classes after September 2020, based on sufficient infection control

measures (MEXT, 2020c). In April 2021, MEXT announced a new policy, indicating that courses not offered by more than half of the classes conducted remotely will be considered as face-to-face courses and that, in the future, more than 60 credits of remote classes will be accepted as a special exception in emergency situations such as disease outbreaks and disasters (MEXT, 2021b). In response to this policy, the percentage of face-to-face classes offered at each university increased. Although the timing of the return to face-to-face classes varied among universities, the percentage of universities that offer more than half of their classes through face-to-face was 99.8% in the fall semester of 2022 (MEXT, 2022b). In May 2023, the alert level for COVID-19 declined, but the rules underlying the MEXT's April 2021 policy regarding the balance between face-to-face and remote classes were sustained.

This period also coincided with the deliberation at the Central Council for Education concerning the revision of “Daigaku setti kijun” (the minimum standards for the establishment of universities). In April and July 2021, there were calls from economic organizations and university associations for the elimination of credit limits for remote learning to enable university education to be more flexible and open to a more diverse student population (Industry-University Council on Recruitment of Graduates and the Future of University Education, 2021; The Japan Association of Private Universities and Colleges, 2021). However, the Central Council for Education's report issued in March 2022 did not eliminate the credit limit for remote learning. Behind this decision was the recognition that the rapid expansion of remote classes during the pandemic was accompanied by problems such as few opportunities for interaction and difficulty in deepening understanding through discussions among students. On the other hand, the report also proposed a policy that universities with well-functioning internal quality assurance would be granted special exceptions in terms of curriculum organization, including a relaxation of the credit limit for remote learning (Central Council for Education, 2022). Based on the policy indicated by this report, “Daigaku setti kijun” was revised in October 2022.

COVID-19 also prompted MEXT to implement a supplementary project to promote the digitalization of university education. The Scheem-D project was launched in June 2020. This project was an initiative by MEXT to support the matching of universities with engineers and companies and to measure educational innovation through digital technology. In addition, the Plus-DX Project (launched in December 2020) and some similar projects provided direct subsidies to universities that were digitizing their education. These subsidized projects are still ongoing as of June 2023 (MEXT, 2023).

On the other hand, the Cabinet is also moving in the direction of more aggressive digitalization of university education. In April 2022, the Council for Science, Technology, and Innovation (CSTI) in the Cabinet Office compiled a "Policy Package on Education and Human Resource Development for the Realization of Society 5.0". This policy proposal seeks to realize "a society where everyone can learn as they please, anytime, from anywhere, with anyone" by sharing and utilizing educational data among universities, schools, local governments, and private businesses (Council for Science, Technology, and Innovation [CSTI], 2022). In May 2022, the Council for Creation of Future Education, established under the leadership of Prime Minister Kishida, issued a proposal entitled "Universities and society driving Japan's future." The proposal calls for the promotion of inter-university collaboration using online and the promotion of university DX by linking student registration information with national identification number, nicknamed "My Number" (Council for the Creation of the Future Education, 2022). Further, the Cabinet approved the "Priority Plan for the Realization of Digital Society" in June 2023. This plan calls for the promotion of the use of “My Number” at universities. For national universities in particular, the plan also outlines how to reflect on the evaluation of the use of “My Number” in budget allocation (Digital Agency, 2023).

These measures of the Japanese government are characterized by the overall goal of transforming social and industrial structures, and by extension, the call for the digitalization of university education. However, sharing the digitized academic history of individual students with the government and private businesses also entails risks from the standpoint of personal information protection. In May 2023, system troubles surfaced, such as the linking of one's “My Number” with someone else's information, which led to a trust issue regarding the handling of personal information in public administration (Goto, 2023). Some universities have begun trials of using “My

Number” for authentication of the use of campus services, but there has been controversy over the pros and cons of the system (Nishida & Nakazawa, 2023). Although the digitalization of university education is inevitable, careful political decisions must be made based on the anticipated risks associated with digitalization and the reaction of public opinion.

Challenges and Prospects in the Response to Digitalization from Japanese University Instructors

The Trend of Digitalization of Teaching in Universities Before the Pandemic

How had faculties at universities been using ICT prior to the pandemic? In Japan, the Academic eXchange for Information Environment and Strategy (AXIES) promotes the use of ICT in higher education. AXIES is an umbrella organization with 155 members from Japanese universities and research institutions and 91 supporting companies as of December 2022 (AXIES, 2022). A comparison of the 2015 and 2017 results in the comprehensive survey undertaken by AXIES shows an increase in the use of all ICT tools in university education (AXIES, 2020). However, in terms of specific items, the use of ICT tools in the classroom is limited. In a 2017 survey, the use of document creation software such as PowerPoint was expanding both in and out of the class, whereas the use of LMS and file-sharing tools to support student learning was not progressing and was low (Table 1). The reasons for the lack of promotion of the use of LMS and file-sharing tools are the preference for traditional paper-based education (Kano & Gobel, 2014) as well as the mismatch with their classes and the technological anxiety felt by faculty members regarding LMS use (Ishikawa & Hara, 2019).

Table 1: ICT Tools Used in University Classes in 2015 and 2017

ICT tools used	2015 (n=1694)		2017 (n=1932)	
	% In-class	% Outside class	% In-class	% Outside class
PowerPoint or other slides	86.3	44.6	91.0	48.2
Web-based educational materials and videos	38.7	26.5	53.7	31.4
LMS	20.5	17.5	31.6	28.8
Collaboration tools (Google Docs, Share Point, Office 365, etc.)	-	8.5	21.6	17.4
File Sharing Tools	12.7	11.7	21.0	17.1

Prepared by author based on AXIES (2020, pp. 33–36)

Response in an “Emergency Remote Class” During the COVID-19 Pandemic

The digitalization of universities was an emergency response to the pandemic, and it disrupted the norm regarding the approach to education in universities. To respond to the urgent situation, many universities implemented “hybrid” (a combination of face-to-face and distance classes) and “high flex” classes (in addition to “hybrid” classes, flexible [students can choose how to participate]) (Taguchi, 2020; Sugimori, 2022). The use of this system was perceived as promising (Institute for Research in Private Higher Education, 2020). Considering the implementation status of universities, simultaneous interactive classes, including the hybrid and high-flex formats, were the most common responses depending on the size of the university (Institute for Research in Private Higher Education, 2020). So, how did faculty in charge of actual classrooms respond to this unprecedented situation, and what challenges did they face?

Challenges and Prospects for University Instructors in Implementing Distance Learning

The use of technology in the classroom was low before the pandemic. However, after the pandemic, its use increased significantly. According to the data provided by AXIES (2020), a comparison of the period before

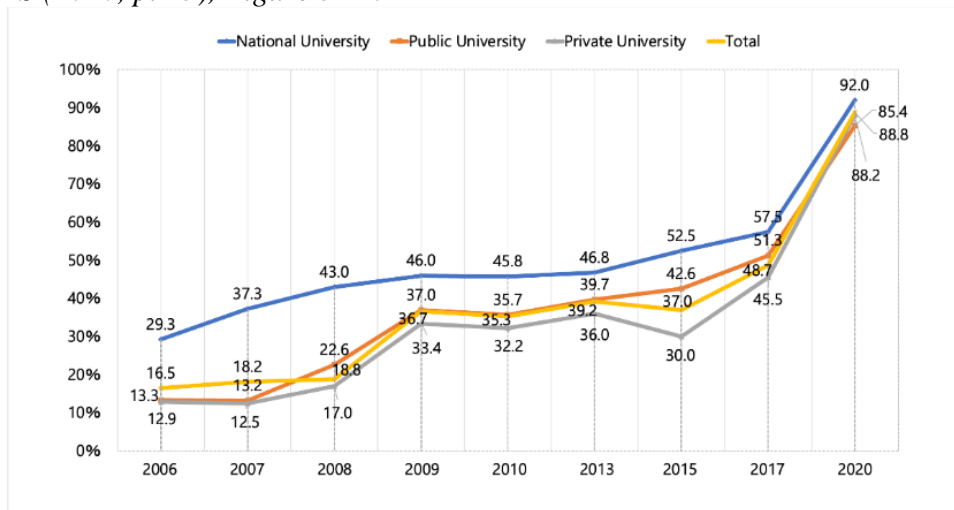
and after the pandemic (2019) shows that the use of distance learning has increased rapidly for all types of universities (Figure 1).

Considering the high diffusion of remote classes, “many faculty members who have not been using technology for distance education, before the pandemic, were forced to use it during the period to cope with the situation” (Center for Research on University Management and Policy, Graduate School of Education, The University of Tokyo, 2021, p. 21). Although the use of technology helped faculty to cope with the new situation at the time, online classes were not without challenges. For instance, the AXIES (2020) survey revealed that online classes do not promote an effective communication environment and were ineffective for practical skills and laboratory exercises, discerning students’ responses and level of understanding, providing support and caring for students, and hindered group work management. In addition, the lack of computer literacy among faculty members has also been indicated as a challenge (Nishii. (Ed.), 2020).

Figure 1

“Transition of Distance Education using the Internet”

Adapted from AXIES (2020, p. 23), Figure 3 1-6



How then can faculty overcome such challenges? According to Murakami et al. (2020), several national research universities have begun to publish online examples of good practices in distance learning, which can be accessed from outside the vicinity of the university (Department of Teaching & Learning Support, n.d.; Uteleccon, n.d.; Tohoku University Online Classroom Good Practices, n.d.). The information on these classes is available online on the basis of discipline and faculty members. It sheds light on how to make use of distance learning and includes the faculty members’ own reflections on their classes and stories of failure. This information can be useful for faculty members not only within the same university but also in charge of classes in the same field at other universities as well as for those seeking to use similar ICT tools. Additionally, in March 2022, MEXT, Higher Education Planning Division, Higher Education Bureau (2022) notified universities and other institutions to promote learning in face-to-face classes and communication among students and between faculty members while taking measures against the pandemic. Considering this, it was necessary for faculty members to also promote face-to-face educational activities while engaging in distance education. The dissemination of empirical information regarding distance learning practices can be regarded as a remote class observation, and it is a useful and valuable asset for faculty members who will be involved in high-flex distance learning at universities in the future.

Iiyoshi (2020) argues that it is essential for educational innovation to focus not only on civilizational aspects such as technology but also on cultural aspects. What is this cultural aspect of education? In light of Iiyoshi’s assertion, it is the values and behavioral patterns of people in the context of education based on fixed

patterns of thoughts and actions. Iiyoshi further pointed out that without a transformation of cultural aspects, educational innovation will not occur. Ironically, however, the pandemic has greatly affected this cultural aspect of university education, and we propose that the myth that university classes are conducted face to face between faculty and students in the classroom has been altered. However, it is too early to say that this has transformed the cultural aspect of education and brought about a change in the faculty members' attitudes toward education. It takes a certain amount of time for an educational culture to permeate through a country. Nonetheless, the pandemic has forced those involved in HE to rethink the value that a university education can offer to society. In this context, opportunities for faculty members at universities to think about how they should act have certainly increased. It has been an experience of trial and error for all faculty members, young or experienced, regardless of the academic field they are in, to develop new methods of teaching and evaluating students. This may be considered a welcome byproduct of digitalization.

Recent Digitalization Trends and Discussion Related to Student Learning in Japan

As mentioned earlier, ICT infrastructures for better education had already begun to develop in Japanese universities prior to the spread of the pandemic. However, they were not fully utilized in educational settings. Behind this lies a problem that cannot be reduced to a simple technological or material issue, but is unique to education in Japanese universities, which prevents its digitalization. Though the pandemic revealed new educational possibilities for students supported by ICT, it also presented the problem of having “too many issues.” In this section, the digitalization of education in universities has been discussed from the students' perspective based on issues related to students' learning time, which is called the “substantiation of the credit system.”

The Issue of the “Substantiation of the Credit System”

The Japanese credit system has been criticized for its lack of “substantiation” (Kaneko, 2013, pp. 29–46; Sugitani, 2021, pp. 44–45). This situation is related to the issue of whether Japanese universities are achieving sufficient results in generating effective “learning” among students in the process of focusing on reformed “teaching.”

The Japanese Standards for the Establishment of Universities stipulate that university graduation requires 124 credits, with one credit earned through 45 hours of study time. The basic pattern of these study hours includes 15 hours of classes and 30 hours of self-study. In reality, however, the study time of university students is much less than this. A study shows that the average number of study hours per week for university students outside the classroom setting is only five (Matsumoto, 2018, p. 28).

Multiple reasons exist for the less amount of time students spend studying outside class. First, Japanese undergraduate students take 10-12 courses per week, which is a high number in comparison to international standards (Yoshimi & Hori, 2021). The burden of class time is particularly high for 1st- and 2nd-year students (National Institute for Educational Policy Research [NIER], 2016, pp. 8–9). In Japan, it is also common for university students to receive job offers from companies while they are still pursuing their studies and to begin work immediately after graduation. In recent years, job-hunting activities begin much earlier in the course of study and lasted much longer (Hirasawa, 2021, pp. 20–21; Honda, 2010, pp. 40–51). Moreover, in the 3rd- and 4th- years, students spend more time on graduation research, which will be discussed in the paper. Consequently, students take more classes in their 1st- and 2nd- years. As the students are busy with classes, it is difficult for them to secure sufficient study time outside class for each subject.

Additionally, the Japanese view of education in universities may be a remote factor behind the lack of progress in substantiating the credit system. According to Kaneko, the traditional Japanese understanding of education is strongly based on an emphasis on leisure time and social activities. Apart from the systematic academic knowledge gained in class, it is believed that the time spent independently reading books unrelated to class and the experience gained through part-time jobs and general membership in clubs are appropriate forms of learning for university students. Moreover, in Japanese universities, high educational significance has been attached to the teaching method of assigning graduation theses and research. Many students, particularly those in

the 3rd- and 4th- year, spend a good amount of time on their graduation thesis and research. It is generally believed that students should explore their interests within a relatively free framework (Kaneko, 2013, pp. 42–43).

The Potential and Challenges for Digitalization and Japanese Higher Education

The pandemic, however, led to the development of a substantial credit system. In online classes, there was no guarantee that tests, which are supervised by faculty members in face-to-face classes, could be administered fairly. As in-class evaluation was difficult, many classes operated on a combination of class video distribution and feedback/learning evaluation using LMS and other ICT tools. In each class, many assignments were distributed; thereafter, the data shows that students' learning time outside class has seen an upward trend (Saito, 2021; Miyoshi, 2021). These reports indicate that ICT may provide an effective technological solution to the problem of the “substantiation of the credit system.”

At the same time, the problem makes the learning practices of Japanese students clear. Based on the data from the survey, a notable “bad point” of online classes was the increased burden of “many reports and other assignments” (49.7%) (MEXT, 2021c). When students return from online to face-to-face classes and lose the time efficiency of distance learning, many may not be able to continue spending time on learning outside class, regardless of whether they have convenient ICT tools.

Sugitani (2021) explains the function of out-of-class learning, citing the establishment of an evaluation system for out-of-class learning in the U.S., which includes the establishment of task-based learning and the assignment of personnel to assist with the evaluation. She also points out that in Japan, though these “props for university education” were introduced, their significance and functions were not fully understood as a result of which they became a mere formality (Sugitani, 2021, pp. 44–45). However, proposals to improve out-of-class learning, including technical solutions to make the credit system more substantial, are important. Simultaneously, peripheral factors, such as the large number of classes students take and the Japanese view of education in universities, are also important.

Presently, based on the experience of the pandemic, experts are discussing reform proposals that will lead to further improvement in the quality of learning for students. Specifically, it has been argued that the strengths of teaching methodology, such as learning management using ICT tools and enhanced teaching materials, should be combined with the reduction in the number of course credits and university-wide curriculum management (Yoshimi & Hori, 2021). To promote the shift from “teaching” to “learning” without difficulty and maximize the effects of the digitalization of education in universities in Japan, it is necessary to address issues such as the adequacy of the system and awareness of the people which they are accustomed before digitalization, in addition to technological improvements.

Digitalization Trends Related to Lifelong Learning

Lifelong learning in Japan has a relatively low degree of institutionalization (Schuetze & Slowey, 2002, p. 322). The low percentage of working Japanese adults enrolled in HE institutions has often been regarded as a policy issue (Council for the Creation of Future Education, 2022, p. 7).

According to Slowey and Schuetze (2012), lifelong learning in Japanese HE is primarily characterized by third-generation learners, called the “Learners in later life,” from a wide range of educational and social backgrounds taking non-credit educational programs for self-development. The typical educational programs they attend are public lectures called *Kokaikoza*, which are recognized as “the most common form of university extensions” (Iwanaga, 2022, p. 24). There are various other noteworthy approaches to lifelong learning in Japanese HE besides *Kokaikoza*.

This section provides an overview of lifelong learning in Japanese HE by dividing it into two types of programs, degree and non-degree, and further organizing the status of digitalization for each type of program.

Degree Programs: Focus on University Distance Learning

According to Yamamoto, lifelong learning in Japanese HE has changed significantly after the Rinkyoshin Report was published in 1985-87 (Yamamoto, 2012). Prior to the Rinkyoshin Report, lifelong learning in Japan was viewed as a leisure pursuit for seniors, and from the 1970s to the 1980s, only a few adults studied at HE institutions. However, after the publication of the report, the MEXT developed postgraduate degree programs, and many adult learners began to study at graduate schools.

Nonetheless, instead of graduate school, university distance learning (including the Open University) has been the “mainstream recipient” of adult learners in degree programs (Kogo, 2020, p. 19) and has been providing educational opportunities for adult learners since the 1990s (Iwasaki, 2018, p. 52). Distance education at the undergraduate and graduate levels was institutionalized in 1947 and 1998, respectively. Recent data show that the percentage of students among those enrolled in university correspondence education over the age of 25 years is about 80% (MEXT, 2021a). University distance learning, therefore, functions as a place for lifelong learning.

The digitalization of university correspondence courses saw a turning point when the 2001 revision of the Standards for the Establishment of Distance Learning at Universities placed Internet-based courses in the system and made it possible for undergraduate students to obtain all 124 credits required for graduation through courses that use such media. Additionally, the establishment of joint-stock online universities, such as Cyber University (established in 2007) and Business Breakthrough University (2010), under the Special Zones for Structural Reform Act of 2003 provided the impetus for the digitalization of lifelong learning.

As described above, the digitalization of university distance education for degree programs has been in progress even prior to the pandemic. During the pandemic, however, the knowledge and skills accumulated through university distance education were not fully utilized in the universities. The main reason for this was that even before the pandemic, there was a division between university distance learning and commuter programs. According to Iwasaki (2018), university correspondence courses are often offered independently from commuter courses because of restrictions, such as not being allowed to attend regular courses offered during the daytime or to receive credit. Moreover, the digitalization of distance education in universities was implemented in a very small number of universities (Kogo, 2020, p. 19). Thus, because distance education in universities remained in a “marginal” position (Kogo, 2020, p. 19) even during the pandemic, its knowledge and skills were rarely utilized for commuter courses, central at universities.

Non-Degree Programs: Focus on Practical Vocational Programs

Non-degree programs include traditional programs with an academic orientation, such as *Kokaikoza*, and new programs with a vocational practice orientation in relation to certificate programs. As already mentioned, the most representative and traditional program for lifelong learning in Japanese HE is the *Kokaikoza*; however, its digitalization has not progressed. According to a survey conducted between 2019 and 2020, though 95.7% of Japanese universities offer *Kokaikoza*, the ICT-enabled percentage of universities offering *Kokaikoza* through distance learning is only 7.6% (MEXT, Education Policy Bureau, Community Learning Promotion Division, 2022). A director of *Kokaikoza* at a national university stated that the reason for this was that the personnel and budget required for distance education could not be secured and the revenue could not be expected (personal communication, 2022). There was also the assumption that third-generation learners, who dominate distance learning, would not have the equipment or skills to take distance education courses.

Alternatively, newer programs with vocational and practical orientations are relatively more digitalized. In recent years in Japan, there has been a demand for educational programs that “emphasize international competitiveness, productivity, and employability” (Iwasaki, 2022, p. 113) against the backdrop of a declining productive population, an aging society, and a falling birthrate, and as a response to rapid knowledge transfer in a knowledge-based society. A typical example is the certificate program, which was institutionalized with the 2007 revision of the School Education Law. This is a system to establish 60-hour long educational programs for learners and issue a certificate to those who complete them. Therefore, the development of short-term, online-based educational programs, which allow workers to study while working, is being promoted under the terms

recurrent education and relearning for the working adult (Cabinet Decision, 2018, p. 105; Central Council for Education, University Subcommittee, Future Vision Subcommittee, 2018, p. 20).

One factor behind the increasing digitalization of new types of non-degree programs is that the use of the Internet was promoted from the beginning of the policy in anticipation of the needs of the workers who are the primary target audience for the new programs. Yet, another factor is the pandemic. According to a survey conducted by the MEXT and the Nomura Research Institute, approximately three-quarters of universities reported that the pandemic had led them to implement new types of online-based educational programs (MEXT & Nomura Research Institute, 2022, p. 28).

As seen above, the digitalization of lifelong learning in HE, whether in degree or non-degree programs, was being developed before the pandemic, however, to a limited extent. The growing societal demand for lifelong learning and the impact of the pandemic have led to digitalization, albeit to varying degrees depending on the type of program.

Implications and Conclusion

University education in Japan has changed dramatically as a result of the full-scale online classes offered in response to the COVID-19 pandemic. The content of university education can be visualized with LMS and e-portfolios. Student learning is managed by faculties, and the students manage their learning trajectory with ICT. The digitalization especially offers opportunities for adult learners who are enrolled in fewer numbers in HE institutions than those in other developed countries (OECD, 2018).

Nonetheless, several challenges remain. As Iiyoshi (2020) pointed out, improvement in the quality of education in universities is difficult without an assessment of the culture of the university. Researchers must use this opportunity to carefully address problems such as the “Substantiation of the credit system” and find ways to maximize the effects of digitalization.

With the advancement of digitalization in the field of lifelong learning, universities will be more open to society. However, digitalization is still in its infancy, and lifelong learning itself being peripheral to Japanese universities, there are also many challenges to be faced. The implementation of lifelong learning and digitalization has bilateral consequences as it can be both an income and expenditure for universities. The digitalization of lifelong learning in universities can be a savior for management as well as valuable for other reasons. These perspectives will be key to the future development of digitalization in lifelong learning.

Although the pandemic has greatly expedited the digitalization of education in universities, other essential issues for educational reform became apparent. To take full advantage of the benefits of digitalization, there is the need to re-examine the factors that hinder it, such as a non-existing structure that enhances educational activities. In addition, immediate measures should be taken to address the hindrances.

The above issues can be resolved by developing the infrastructure and systems for the entire HE sector as a part of the reform for the entire society. Apart from the MEXT that acts as the traditional managing actor for HE policies, several ministries, including the Cabinet of Japan, have set the recent policies of transformation of the Japanese social and industrial structure as a government-wide goal; the digitalization of university education is part of this transformation. This could widen the targets for HE. However, sharing the digitized academic record of individual students with government and private entities entails risks calling for personal information protection. Large amounts of data, including individual student learning records, have the potential to generate significant profits when used for business purposes. We have to be careful with this data utilization both in and out of universities. Therefore, the various stakeholders should discuss how digitalization can enhance the value of universities while protecting student personal information.

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